FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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Poultry-Egg Board Okays '60 Budget, Lays Future Plans

CHICAGO—Directors of the Poultry and Egg National Board in session recently in Chicago approved a budget for 1960 20% larger than the actual income in 1959 and agreed unanimously that "PENB has turned the corner and is setting the stage to serve industry's needs most effectively in the months ahead."

In announcing the budget, to be reviewed every three months, Ralph J. Thomas, president, stated this would provide an operating budget of approximately $340,000. Half of the 20% increase would be used on the expansion of the promotion program and the other half would be held in reserve to build toward a fund of $50,000 to launch a positive program to clear medical and consumer misunderstandings toward cholesterol in eggs. Also a larger portion of promotion money will be utilized in research and testing programs for eggs than in previous years. This is in line with PENB's new emphasis on research and product development, "the No. 1 plank in its expansion program."

Other action taken by the board of directors follows:

- Approved a grant-in-aid of $500 to Rutgers University for a research project on the freezing preservation of cooked eggs.
- Adopted a policy to clear up any misunderstandings in regard to PENB's desire to work closely with the National Egg Council and its state affiliates.
- Accepted a $7,500 check from the

(Turn to PENB, page 4)

Heavy Poult Production During October Up 33%

WASHINGTON — Heavy breed poult production during October was up 33% from October, 1958, according to a recent report by the U.S. Department of Agriculture.

USDA says heavy white poult production during October of 849,000 poults was 40% larger than in October, 1958. Hatch of other heavy breeds (mostly bronze) of 116,000 was 3% less than last year.

For the year to date, January through October, hatch of all heavy breed poults totaled 70,153,000—1% more than a year earlier. Heavy white breed production this same period was up 31%, but other heavy breeds were down 7%.

The number of light breed poults

(Turn to TURKEYS, page 105)

'Type of Hog That Sells' Urged at Swine Meeting

By FRED TUNKS
Feedstuffs Staff

AMES, IOWA — The man from Denmark who was described at the National Swine Industry conference here Nov. 19 as the "No. 1 expert on swine production in the world," fed the conference audience of some 625 persons some eye-opening and perhaps controversial observations in the realm of nutrition and other aspects of swine production.

Drawing on his experiences as the man who heads swine research in Denmark, Prof. Hjalmar Claussen stressed the importance of producing the type of hog that sells. He said much in favor of restricted feeding, widely practiced in Denmark, and sufficient protein in a hog's diet. (Also see story on page 7.)

Prof. Claussen was one of several featured speakers who opened the program and had a major part in attracting the record attendance—just about twice the number expected.

Other speakers who appeared at the conference rostrum before and between workshop sessions probed the challenges, progress, problems and potentials of swine production and marketing. Much was said about improving the "consumer's image" of pork, thereby increasing consumption.

Feeding Principles

Principles which Prof. Claussen believes must be reckoned with in producing lean hogs, apparently demanded by consumers, are these:

(1) No pig can produce the maximum percentage of lean meat unless it is fed sufficient protein as determined by hereditary factors.

(2) No pig can be forced to produce more meat than is limited by its genes, regardless of the amount of protein fed, except when hormones are used. (Prof. Claussen noted that hormones are not used in Denmark.)

(3) When daily requirements of maintenance and growth are met, any feed consumed in excess of meeting these needs must be converted into fat. "The pig has nothing else to do with surplus feed than to convert it to fat," Prof. Claussen said.

(Turn to SWINE, page 109)

Poultry Production and Price Prospects for 1960 Analyzed

WASHINGTON — This is the season for outlook reports. And for the feed and poultry industries—beset in recent months by low prices—an expert analysis of poultry production and price prospects for the coming year is of particular interest.

The general situation seems to be that things can't get much worse, so they'll have to get better.

It was put this way in a talk at USDA's agricultural outlook conference this week: "There are times when the only possible change in a situation is improvement. Taking 1959 averages as a base, the poultry industry would seem to have arrived at that position.

"But that conclusion cannot be stated absolutely, without reservation or qualification, because, if the industry were to respond confidently to the conclusion, the prediction would not materialize. In short, our outlook forecasts are built around an assumption of adjustments toward an equilibrium, within the scope of the relatively limited flexibility that is possible for producers who, for the most part, have become rather specialized."

The speaker was a leading authority on poultry economics, Edward Karpoff of USDA. Here are some of the highlights of his predictions:

- **The aggregate output** of eggs and poultry meat in 1960 will be little, if any, above 1959, so one of the 1959 pressures toward low prices will be relieved.
- **The 1960 laying flock** will be smaller, and egg production will be a little below 1959. Egg prices for the year will be up an average of 2 or 3¢ doz. over the prospective 1959 average of 32¢ doz.
- **Forthcoming hatches** of egg-type chicks will reflect the sobering influence of low egg prices this year; the average cut in the hatch will be 5 or 6%—a deeper cut than could be

(Turn to POULTRY, page 8)

Capital Comment

Connotations of Cranberry Incident For Feed, Other Industries Cited

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — The feed, grain and milling industries cannot dismiss the connotations of the recent activities of the Secretary of Health, Education and Welfare (HEW) in the cranberry industry—coming at the time the industry was on the eve of its big marketing season.

The timing has been called a punitive result for the cranberry producers since the condition in which HEW acted had been widely known for some time.

The cranberry decision points up the gravity of the situation for both the feed and cereal processing industries; it shows the attitude of HEW in regard to the Delaney clause and the use of suspected carcinogens in feeds and other commodities produced through the utility of various chemicals.

Several weeks ago this reporter pointed out that policy decisions over the use of estrogens and arsenicals would not be determined at FDA or HEW but at scientific levels in the National Institutes of Health.

No further confirmation is needed than the statements made last week by the HEW secretary, Arthur S. Flemming, in connection with the cranberry incident.

As reported last week, he stated, "FDA has declined to set any tolerance for any amount of a chemical in foods (feeds) if the chemical produces cancer when fed to test ani-

(Turn to CAPITAL COMMENT, page 109)

FEEDSTUFFS *Features This Week*

TREATED GRAINS: An article outlining possible dangers in using treated grains in feeds appears on **page 26.**

PRODUCTION: Modern, operational features of a new mill in Illinois are described on **page 34.** A discussion of mixing microingredients begins on **page 38.**

BROILER FEEDING: A broiler firm adds extra milling equipment to shave feeding costs. **Page 46.**

FARM PROGRAM: A grain firm executive discusses the influence of the federal farm program on the feed business. **Page 72.**

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Alfalfa Dehydrators Ask Rate Suspension

KANSAS CITY—A request for suspension of certain railroad tariffs, which sharply reduced rail rates on dehydrated alfalfa from the middle west to southeastern states, has been requested by Nebraska alfalfa dehydrators.

At a recent meeting of the Nebraska Dehydrators Assn., it was decided to ask the Interstate Commerce Commission to suspend the rates, pending a protest hearing.

Members of the Nebraska Dehydrators Assn. told the commission they favored the principle of reduced rates, but objected to those published on the ground that the new rates gave more favored treatment to other states than to Nebraska and thus would upset competitive relationships.

The lower rates would have been effective Dec. 1 from all producing points in Colorado, Kansas and Nebraska to the Southeast. Similar reductions from St. Louis and other Mississippi and Ohio River crossings to the southeast became effective Nov. 2.

These reductions requested by alfalfa dehydrators would have established a commodity rate for alfalfa for the first time. Previously, dehydrated alfalfa has been included in the grain rate classification.

The ICC has not yet announced any decision on the request for suspension.

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The regional circulation of this issue is concentrated in the southwestern states.

Top of the Hopper

SOME COGENT THOUGHTS on the subject of volume as related to profits were expressed by I. S. Riggs, chairman of the American Feed Manufacturers Assn. and vice president of The Quaker Oats Co., at the recent Cornell Nutrition Conference. Mr. Riggs noted that traditionally the farm economy has put great stress on volume. "As price per bushel goes down through technological development, we get new varieties, apply more fertilizer and produce more bushels and prices go down still lower. Those who have improved their cost structure continue to make money, but those who have not adapted to the lower cost methods fail to achieve satisfactory results regardless of their volume."

He went on to point out that opportunities for improving internal efficiency often are overlooked in farming and in industries serving agriculture, such as the feed industry.

"How many of us tend to over-simplify our problems with the thought, 'More volume would solve all my difficulties,'" he continued. "But is this always true? Can cost reductions on present volume be achieved? I suspect this route to profit improvement is too often neglected in our business."

Mr. Riggs' suggestion, of course, is not that the industry remain static, or reject opportunities for sound expansion of business. It may be regarded rather as a timely reminder that there are ways to reach a profit goal other than through wild financing or contracting which may mean no more than volume for volume's sake.

AS MANY INDUSTRY OBSERVERS have expected and feared, comments on feed as well as other additives in relation to cancer have reached the public press in a major way. The syndicated newspaper columnist Drew Pearson wrote this week that there has been an "alarming jump in cancer cases in the U.S." and that "the use of modern sprays, weed killers, preservatives and additives has been suspected."

Mr. Pearson predicted in his copyrighted column that "there's going to be a battle of the housewives vs. the food and drug lobbyists in the next congress." He went on to say, "Lobbyists for some of the most powerful food, farm and cosmetic industries are already planning an astute battle to amend the food and drug act. They want to protect the use of coal tars in lipsticks, cattle feeding additives and weed killers in connection with such things as cranberries. Specifically they have their guns trained on the 'Delaney amendment,' which forbids the use of any chemical if it induces cancer in animals."

It was hoped that this type of reporting and comment on the additive situation could be avoided, but the cranberry incident may set off many sensational and distorted reports—adding to the public relations problems of agriculture and allied industries.

SOME PERSONS HAVE FELT that the recent poultry industry troubles in the Southeast will result in a significant tightening of credit for poultry operations. And, they say, there will be quite a reduction in the size or number of integrated projects.

While this may happen, it also appears that there could be closer or more complete integration by those who are risking their money. Some firms possibly will take over more direct operation or control of the different phases of poultry operations. They will reason that if they are going to risk large sums in poultry projects, they will want to have more control over the operations involved.

(Turn to **TOP OF THE HOPPER**, page 105)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

More favorable reports came from most parts of the country this week, as formula feed sales seem to be holding steady or increasing in the face of cold weather in many areas. In the Southeast, however, the feed business remains in the doldrums. Cattle feeds seem to be the prop under sales volume in much of the country. Dairy and hog feeds are moving well in some places, but sales are lagging in others. A further drop in the corn-hog ratio from 11.9 to 11.6—5.3 points below last year—is for the most part discouraging as to the future. Poultry feeds generally are not doing well. Most turkeys have been marketed or are on their way to markets, so orders for turkey mash are limited. The wholesale feedstuffs price index dropped .8 point, to 81.2 this week compared with 83.1 a year earlier. The feed-grain index, at 64.1 this week, was about unchanged from a week ago, and compares with 66.9 a year earlier. (Ingredient prices in detail on pages 106-108.)

Northwest

A blast of near zero temperatures along with the usual, seasonal upturn in sales bolstered formula feed sales even further this week, even though corn and soybean harvesting is still in progress over much of the area.

Poultry feed business remains in a slump; turkey feed movement especially is at a near standstill, with most of the flocks headed toward markets or being readied for sale.

As was the case last week, cattle feeds are moving in good volume, some feed men indicated, although others reported sales to be little if any improved over last year, even though cattle numbers are up. Dairy and hog feeds are doing quite well for the most part.

With the Thanksgiving holiday coming up, most manufacturers were planning some overtime production to fill orders.

Alfalfa meal in the area went up $2, with supplies centered in strong hands, and demand good. Soybean meal prices slipped back, as offerings increased and were met with slow demand.

Southwest

Although there was some irregularity among different mills, the general trend of formula feed sales was upward in the past week in the Southwest. Most mills reported an over-all improvement in volume, but some indicated a drop. This difference may have been caused in part by variations in the pricing periods, as some mills advanced prices last week while others did not, and by changes in field work conditions in various parts of the area. In some places delayed field work could be done this week which tended to hold down feed business in those sections.

The major upsurge in demand came in cattle feeds, brought about by colder weather and using up of more home grown supplies. Some mills even got a bit behind in filling such orders. Dairy feed sales also showed an uptrend this week.

In the hog feed category, some mills reported better sales while others said their orders of this type of product were down. Poultry feeds were without feature, holding mostly at the same level as in recent weeks.

Mills operations were variable too. Some plants were short one day's running time, while others operated on Saturday for the first time in some weeks, the latter mostly in cases where cattle feed represents a big part of current volume. Most plants ran a full five days and had a small carry-over of orders for next week. Prices varied all the way from unchanged to $1 down.

Northeast

Manufacturers' running time slipped as demand for formula feeds subsided after the previous week's buying wave. And the trade expects to operate at the lower level for a while.

Cold weather, with an accompanying snow-cover, has arrived in this area. but it is not likely to stimulate feed sales. Cattle feeding is now confined to barns and lots, and farmers are prepared for extremes in the weather.

Dairy feeds continued to maintain their sales tonnage lead. They were followed by egg mashes and broiler feeds. Demand for turkey feeds has fallen to the bottom of the list.

End products continued to hold a measure of stability. Eggs did fairly well, and broilers held about steady, although there was some softening in the market in the South.

Ingredient prices didn't move very far either way during the week. Corn held about steady, oats were off ½¢, feed wheat rose 2¢, and barley was unchanged. Animal tallow continued strong with a further rise of ⅛¢ lb. to 6½¢. Soybean oil meal (44% and 50%) declined 50¢ to $1. Other vegetable proteins held steady.

Fish meal was weak, with sellers asking for bids. Meat scraps were also at a standstill as the trade waited to see what soybeans would do.

There has been quite a bit of switching of ingredients, especially from gluten meal—which is scarce—to brewers' grains. The latter rose $1-2. There were no offerings of distillers' grains. Hominy feed advanced $1 and alfalfa meal held unchanged.

Bran and middlings advanced Nov. 18, with the rise based mostly on technical factors.

Running time of formula feed manufacturers dropped to 32 hours last week from 40 hours in the preceding week.

Southeast

Feed business in the Southeast continues on the slow side. Most of the mills are operating either one or two 8-hour shifts; however, many believe there should be an improvement in all types of feed business in the very near future.

Chick placements in the Southeast remain about the same each week. Broiler prices last week were the lowest they have been in the past several months, ranging from 13½¢ to 14½¢ f.o.b. the farm, owing to a slack demand. Hog prices were slightly improved for the week, with cattle prices off from 50¢ to $1 cwt.

Some exporters are beginning to offer cottonseed meal and soybean meal for resale for Nov.-Dec. shipment, resulting in unsteady markets. Major feed ingredients buyers are continuing to buy their proteins on an as-needed basis, as many feel that if very much of the export meal should come back on the market, it would result in lower prices.

(Turn to **MARKETS**, page 111)

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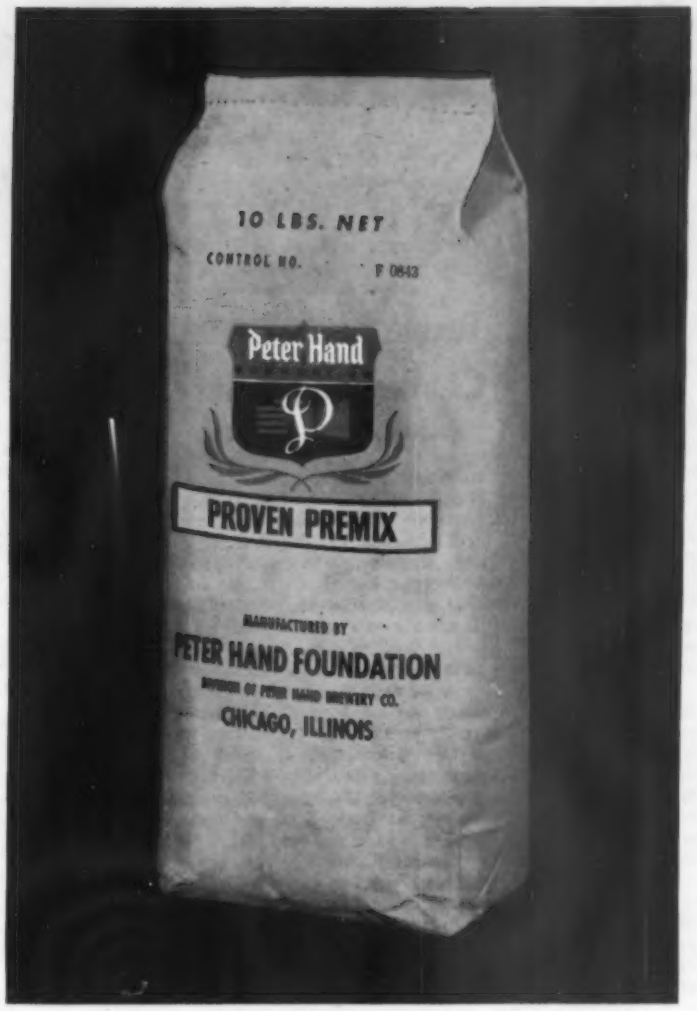

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Protein Feed Supply Increase Noted

BUFFALO, N.Y.—Total supplies of high-protein by-products for feed in 1959-60 are nearly 5% larger than the amount fed last year.

This was pointed out by Dr. L. C. Cunningham, Cornell University economist, in a Cornell Nutrition Conference talk last week on the feed outlook for the year ahead.

Commenting on soybean and cottonseed meals specifically, he said that supplies of soybeans and cottonseed available for crushing this year are up about 5% and 25%, respectively, compared with last year. This is based on a normal carryover of beans next fall of 20 million bushels.

Exports of both seeds and meals are expected to be larger, but imports of cottonseed meal will be down. If these estimates of crushings and exports are realized, there will be 3% more soybean meal and 16% more cottonseed meal available for feed this year than was fed last year.

(See accompanying table showing high-protein by-products for feed; also, a table showing total estimated feed supplies.)

The aggregate supplies of grains and by-products available for feed in 1959-60 total nearly 190 million tons. This compares with 143 million tons fed to livestock last year.

Dr. Cunningham noted that the College Feed Survey Committee's balance sheet for 1959-60, in which estimated feed use is matched against available feed supplies, shows an excess of 42% in grains and millfeeds and 8% in high-protein feeds. The committee's projections showed another year of expanding feed operations, but the rate of expansion will slow. (Feedstuffs, Nov. 7.)

Dr. Cunningham said that corn prices are expected to strengthen seasonally, but run somewhat lower during the next 6 months than a year ago. Small grain prices may exceed year-ago levels, but grain sorghum prices will be lower.

Despite early season strength, soybean meal prices are not expected to average as high in 1959-60 as last year. Lower cottonseed meal prices are in prospect for 1959-60.

HIGH-PROTEIN BYPRODUCTS USED FOR FEED

U.S., 1958-59 and 1959-60

Item	Conversion factor	Year beginning October 1958-59*	1959-60†
		thousand tons	
Oilseed meals:			
Soybean	1.00	8,955	9,236
Cottonseed	.89	2,201	2,561
Linseed	.80	440	355
Peanut	.93	75	75
Copra	.43	147	140
Animal by-products:			
Tankage and meat meal	1.20	1,425	1,475
Fish meal	1.35	450	450
Comm. milk prod.	.35	110	100
Other milk prod.	.76	960	950
Grain by-products:			
Gluten feed & meal	.72	1,040	1,000
Dist. dried grains	.59	340	300
Brew. dried grains	.57	230	230
Urea	5.70	100	110
Total oil meal equiv.		16,135	16,719

Adapted from USDA Feed Situation.
*Preliminary. †Available for feed.

Texas Farm Products Co. Buys Egg Plant

NACOGDOCHES, TEXAS—Purchase of the Robin Hood egg plant, Houston, was announced recently by Steele Wright, president of Texas Farm Products Co., Nacogdoches.

A report by Poultry & Eggs Weekly says the plant was bought from Egg Sales, Inc. Name of the new firm will be Lone Star-Robin Hood division of Texas Farm Products Co.

Mr. Wright said, "Robin Hood has been handling approximately 1,000 cases of eggs per week, with the majority being bought in the central Texas and Trinity areas."

"Our company purchased the egg processing plant to provide additional markets for the eggs being produced under the Lone Star quality-control program in east Texas.

"Through consumer promotion and a concerted sales effort in the areas adjacent to Houston along the Gulf Coast, we hope to be able to market at least 2,000 cases of eggs each week through this new outlet next year.

"Where Robin Hood and Egg Sales, Inc., were given over principally to egg processing, Lone Star both produces and distributes," Mr. Wright explained.

Lone Star-Robin Hood is the fourth egg grading station to be opened by Texas Farm Products, according to the Poultry & Eggs Weekly report. A U.S. Department of Agriculture inspected station has been operated at Jacksonville for the past five years; and the second, the only USDA station in Louisiana, was opened at Shreveport last January. The fourth station will be opened at the Texas Farm egg farm, near Nacogdoches, in conjunction with the newly purchased Houston operation.

The two USDA stations now grade about 2,500 cases of eggs per week, which are being sold in eastern Texas and western Louisiana.

FOREMAN KILLED

HOLLANDALE, MISS.—A wall which collapsed at the Mississippi Oil Mills, Inc., killed Ray Chittom, yard foreman, recently.

ESTIMATED FEED SUPPLIES

Total Concentrates Fed to Livestock, 1958-59 and Available for Feed, 1959-60

Concentrates	Year beginning October: Fed to livestock, 1958-59		Available for feed,* 1959-60	
	mil. bu.	thous. tons	mil. bu.	thous. tons
Corn	2,891		4,122	
Oats	1,224		1,047	
Barley	227		332	
Grain sorghums	322		743	
Total		114,996		160,940
Wheat and rye		1,900		1,900
Low-protein by-products		9,100		9,135
Alfalfa meal		1,335		1,400
Animal fats		250		250
Total		127,581		173,625
Adjustment for urea		500		550
Total		127,081		173,075
	thous. tons		thous. tons	
Oilseed meals	11,818		12,367	
Animal by-products	2,945		2,975	
Grain by-products	1,610		1,530	
Urea	100		110	
Total oilmeal equivalent		16,315		16,719
Total concentrates		143,216		189,794

Adapted from USDA Feed Situation.
*Allows for non-feed uses and assumes end-of-year stocks in millions of bushels: corn 1,000 and grain sorghums 200, Oct. 1, oats 250 and barley 75, July 1.

WINNERS—Shown at New York International Airport prior to their departure via Scandinavian Airlines for Europe are winners of the Chas. Pfizer life cycle swine feeding contest. Shown (left to right) are: H. L. Schaller, of Pfizer; Mr. and Mrs. George Connell, Poplar Bluff, Mo.; Mr. and Mrs Wayland Givens, Owensboro, Ky; Mr. and Mrs. Martin Annexstad, Jr., St. Peter, Minn.; Mr. and Mrs. Robert Gallegher, St. Paul, Minn.; Mrs. and Mr. Luther Stover, Greenville, Ohio; Mrs. and Mr. Philip Jordan, New Paris, Ohio; Mrs. and Mr. Willard Waldo, DeWitt, Neb., and Mrs. and Mr. Arnold Sukovaty, Wilber, Neb.

Farmers, Feed Men Return from Trip Sponsored by Pfizer

LOS ANGELES—Sixteen midwesterners returned to the U.S. this week after enjoying a 10-day educational tour of Europe.

The free trip, compliments of Chas. Pfizer & Co., Inc., was the grand prize for four farm couples and four feed dealers and their wives. They were winners of a national life cycle hog feeding contest sponsored by Pfizer.

After the European tour, the group returned "over the pole" via Scandinavian Airlines System to Los Angeles.

The four midwestern hog producers and their wives are the Willard Waldos, DeWitt, Neb.; the Philip Jordans, New Paris, Ohio; the Wayland Givens, Owensboro, Ky., and the Martin Annexstads, Jr., St. Peter, Minn.

The four suppliers and their wives are the Arnold Sukovatys, Wilber (Neb.) Coal & Feed Co., handling feeds for Gooch Milling & Elevator Co.; the Luther Stovers, supplying Marlou Sunshine Feeds for Stover Feed & Grain Co., Greenville, Ohio; the George Connells, handling Professional Hog Feeds for the Professional Feeds division, Spencer Kellogg & Sons, Inc., Poplar Bluff, Mo., and the Robert Galleghers, handling feeds for the Minnesota Farm Bureau Service, St. Paul, Minn.

The couples' first day in Europe was devoted to an educational tour in and around Copenhagen.

One of the tour stops was a swine testing station near the capitol where meat-type trials were under way. Pfizer International formally welcomed the group to Copenhagen at a dinner party at the Hotel Imperial. Dr. Hjalmar Claussen, swine scientist, and Elmer A. Riise, U.S. agricultural attache, were on hand to meet the farmer-feed dealer group.

Sightseeing tours and visits to progressive farm operations were included on their journey through Denmark to Flensburg and Hamburg, Germany. Sightseeing excursions to London and Paris completed the European trip.

The winning feeders were judged as champion hog raisers for their achievements in scientific hog feeding and management. As winners, they and their feed suppliers were awarded the trip to Europe. (Feedstuffs, Oct. 24.)

JOHN MILLER CONVALESCING

COLUMBUS, OHIO — John W. Miller, vice president and sales manager, Bryant Engineering Co., Port Huron, Mich., is convalescing in University Hospital here from injuries resulting from an automobile accident.

PENB

(Continued from page 1)

National Turkey Federation as the final payment on its $30,000 investment commitment to PENB.

- Accepted recommendations from the membership and finance committee to refine its investment set-aside program as it applies particularly to the feed companies.
- Accepted the report of the audit-budget committee to strengthen PENB's investment solicitation and promotional programs.
- Appointed a bylaws committee consisting of Howard Kauffman, John Randolph and L. A. Wilhelm.
- Announced the nominating committee for the naming of the slate of directors for 1960 in line with the bylaws. Committee consists of Ralph J. Thomas, W. J. Moore, Mr. Kauffman, John R. Hargreaves and Paul Benbow.
- Selected the advertising agency of L. G. Maison & Co., Chicago, to handle the cholesterol project when funds approximating $50,000 become available.
- Authorized Lloyd H. Geil, general manager, to obtain the services of an assistant director of home economics for eggs and a writer to handle publicity and preparation of materials, both appointments to become effective on or after Jan. 1, 1960.

Noel Shaver, Shaver's Hatchery, Inc., Crawfordsville, Ind., was named chairman of PENB's new finance and membership relations committee.

Purpose of the committee is to provide industry guidance to K. K. Heideman in directing PENB's new investment program.

Other members on the committee are: Orville Cockrel, Hales & Hunter Co., Chicago; Ralph Crooks, Poultry Producers Assn., Versailles, Ohio; Dale Steward, Madison (Neb.) Cooperative Creamery; Dr. George F. Godfrey, Honegger Farms Co., Inc., Forrest, Ill.; Lloyd E. Mowrer, Lake Land Egg Co-op, Valders, Wis.; E. O. Creel, Alabama Flour Mills, Decatur, Ala.; Clay F. Meiske, Continental Can Co., New York, N.Y.; Doyle H. Free, Poultry Improvement Assn., Lincoln, Neb.; Clair Hendrix, Hendrix Feed & Hatchery, Kankakee, Ill.; R. J. Higgins, General Mills, Inc., Hot Springs, Ark.; Dr. John G. Salsbury, Dr. Salsbury's Laboratories, Charles City, Iowa; Harry Metz, Metz Poultry Farm, Belleville, Pa., and Ray Hasley, Rochester Breeding Farms, Rochester, Minn.

ANNIVERSARY

CINCINNATI—John Young, president of John F. Young Co., Inc., distributor of feed ingredients, was guest of honor at a surprise dinner party in the Homestead Inn at nearby Millford, recently. The dinner was given by employees to celebrate the fifth anniversary of the firm.

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Florida Feed Group Hears Nutrition Talks, Elects Officers

By J. FRANCIS COOPER
University of Florida

GAINESVILLE, FLA.—T. P. Shields, Security Mills, Tampa, was named president of the Florida Feed Dealers Assn. at its annual meeting in Gainesville recently. Mr. Shields succeeds Gene McKoy, John W. Eshelman & Sons, Tampa, who becomes a member of the board of directors.

Russell J. Godwin, Florida Feed Mills, Jacksonville, was elevated from secretary to vice president. Rogers E. Eikenberry, General Mills, Inc., Coral Gables, is the new secretary, and Jim Barnhardt, Early & Daniel Co., Tampa, is treasurer.

Additional directors include Julian C. Smith, Flint River Mills, Tallahassee; Keith H. Morgan, Jackson Grain Co., Tampa; Lawrence W. Howard, Jr., Howard Feed Mills, Jacksonville; Frazier V. Rogers, General Mills, Inc., Tampa; Leonard Banks, Broward Grain Co., Fort Lauderdale; Barton Ahlstrom, Quaker Oats Co., Tampa; W. D. C. Robinson, Security Mills, Jacksonville, and Jim Jewett, Ralston Purina Co., Tampa.

More than 100 feed men and producers attended the two-day session and heard discussions of new developments in feeding beef and dairy cattle, poultry and swine. Dr. John P. Feaster of the Florida Agricultural Experiment Station's animal nutrition laboratory was general program chairman. In addition to officers of the association, the program steering comittee was composed of Drs. C. B. Ammerman, R. B. Becker, G. K. Davis, J. F. Hentges, Jr. and N. R. Mehrhof of the Florida Agricultural Experiment Station.

A number of feed dealers got together informally with staff members of the animal husbandry, dairy and poultry departments preceding the opening session. They discussed research work in progress.

Conference speakers from out of state included Dr. R. O. Nesheim, manager of livestock feed research for the Quaker Oats Co., Barrington, Ill.; Dr. G. Lynn Romoser, project manager for Monsanto Chemical Co., St. Louis; Dr. J. M. Snyder, director of poultry research for the Beacon Milling Co., Cayuga, N.Y.; Dr. J. J. Drain, technical coordinator of animal feed development for American Cyanamid Co., Princeton, N.J.; Paul M. Reaves, professor of dairy science at Virginia Polytechnic Institute, Blacksburg; Dr. W. H. Rhodes, veterinarian for Merck & Co., Columbia, S.C.; Dr. C. K. Laurent, general manager of Marbut Milling Co., Augusta, Ga., and G. F. Ford, sales manager for Dorsey Trailers, Elba, Ala.

Feed dealers and commercial representatives attending the conference were told that the responsibility for educating dairymen and livestockmen concerning the need for improved nutritional practices is of almost equal importance with their responsibilities in formulating and mixing the best possible feeds. T. W. Sparks, assistant dairyman with the Florida Agricultural Extension Service, urged those who influence farmers and ranchers to help carry out programs for improving cattle nutrition.

Minerals for Layers

Dr. Robert H. Harms of the Florida Agricultural Experiment Station poultry staff pointed to reports that the National Research Council's recommendations on minerals for the laying hen may need revision.

"Recently, interest has been renewed in studying the mineral requirements of the laying hen," he said. "Data being reported from a number of experiments have not substantiated the levels recommended by NRC. Idaho experiments have shown that egg shell quality was significantly improved when the calcium level of the feed was increased from 2.25 to 3.75%. Other investigators found that it was possible to get top egg production from hens on 'all vegetable' feed in which the total phosphorus content was only .38 percent. Purdue researchers have said that .45 percent total phosphorus is adequate for the laying hen. Unpublished data from Florida research indicate the phosphorus requirement of the laying hen to be in excess of .43 percent of the diet."

Protein and Amino Acids

Dr. Romoser pointed out that nutritionists are no longer concerned with merely protein in properly balanced broiler feeds—they are more concerned with the many complex combinations of chemicals, amino acids, found in proteins.

"It is well known that amino acid content of feed protein is quite different from that found in egg protein," Dr. Romoser declared. "For the hen to make an egg, it is necessary for the feed protein to be broken down into its individual amino acids, which are then rearranged into egg protein. Tissue protein is also required for some slight growth during the laying period and also for body maintenance."

The Monsanto project manager said that with broilers it has been found that an increase in productive energy in the feed formula also requires an increase in the crude protein level. "Generally, an increase of 42 to 50 calories of productive energy has required an increase of about 1% in crude protein in a broiler feed," he added.

He pointed out that protein values of optimum performance with laying hens have been shown to range between 12.5 and 18%.

"During the past year, Dr. Harms of the Florida Experiment Station observed approximately 10% improvement in hen performance resulting from the addition of MHA (trade-

(Turn to FLORIDA, page 105)

FLORIDA FEED OFFICERS—Officers of the Florida Feed Dealers Assn. chosen at a meeting in Gainesville recently include (left to right): T. P. Shields, Security Mills of Tampa, president; Russell J. Godwin, Florida Feed Mills, Jacksonville, vice president, and Rogers E. Eikenberry, General Mills, Inc., Coral Gables, secretary. Jim Barnhardt, Early & Daniel Co., Tampa, is the new treasurer.

CHICKS FOR SUPPLY FLOCKS DOWN

★

WASHINGTON—Indicated domestic placement of pullet chicks for broiler hatchery supply flocks by leading primary breeders of broiler replacement stock totaled 1,994,000 chicks during October, 1959, according to the U.S. Department of Agriculture.

This was 19% less than domestic placements of 2,473,000 chicks in October, 1958. Total placements (domestic plus exports) were reported at 2,121,000, compared with 2,585,000 a year earlier.

The placement data includes pullet chicks sold during the month, plus the number of pullet chicks expected from eggs sold during the preceding month. Conversion from eggs to expected pullet chicks was made on the basis of 125 pullet chicks per case of hatching eggs sold.

Delmarva Broiler Prices Up Slightly

SALISBURY, MD.—Broiler prices in Delmarva improved last week but were more than a cent below the price of a year ago.

Last week's average price was 15.19¢ lb. on the farm, compared with 15¢ the week before and 16.44¢ a year ago.

With poor prices upon Delmarva growers, production has been cut back. Marketings totaled 3,170,000 during the week ending Nov. 14. This was 9% below the previous week and 11% below the corresponding week of 1958.

Nationwide, hatcherymen in the 22 important broiler producing states set 39,099,000 eggs. This was 3% above the previous week but 4% less than the corresponding week a year ago. Settings were up from the previous week in 18 of the 22 states. Sharpest increases were reported in North Carolina, Maryland, Arkansas and Texas.

Broiler chick placements made during the week totaled 26,658,000. This figure was 3% above the previous week but 4% below the corresponding week a year ago. Increases were reported for 16 states compared with the previous week. Largest increases occurred in Connecticut, Arkansas, North Carolina and Mississippi.

New Vitamin K Premix Announced

VALLEY STREAM, N.Y.—A new vitamin K premix, described as "extremely stable," has been announced by William Galler, president of the Heterochemical Corp.

Mr. Galler said that the new product, called "New Process Hetrogen K Premix," assures stability under the most adverse conditions of temperature and humidity.

"The industry for some time has been aware that ordinary vitamin K premixes lose a variable but substantial amount of potency under even normal handling situations," Mr. Galler said. "The new premix, however, retains its original potency for extended periods under the most adverse storage conditions."

The announcement said that under normal storage conditions and also in accelerated storage tests at higher temperatures and humidities New Process Hetrogen K Premix retained 98% of its original potency.

Prices of the new product, Mr. Galler said, "are competitive with ordinary vitamin K premixes."

He said the new premixes are available in a range of graduated potencies of from 4 to 64 grams of Hetrogen K per pound on calcite or soybean meal carriers.

Output of Both Broiler, Egg-Type Chicks Decreases

WASHINGTON—Production of chicks by commercial hatcheries during October was down 11% from October, 1958, but was up 22% from the 1953-57 average for the month, according to the U.S. Department of Agriculture's hatchery report.

The report says the number of broiler-type chicks hatched was down 10% from October a year earlier. The number of egg-type chicks hatched was down 15%.

The number of broiler-type chicks produced during October totaled 119,667,000, compared with 133,512,000 in October, 1958. Production of broiler-type chicks January through October totaled 1,547,826,000—1% more than during the first 10 months of 1958.

Egg-type chicks hatched in October totaled 14,375,000, compared with 16,904,000 in October, 1958. Production January through October totaled 518,528,000—7% less than the same period in 1958.

The demand for chicks, both broiler-type and egg-type, continues below that of a year ago, and smaller November hatches than last year are in prospect, the report says. The number of broiler-type eggs in incubators on Nov. 1 was 5% less than a year earlier, and the number of eggs for egg-type chicks was 11% less.

Oilseed Meal Futures Decline at Memphis

MEMPHIS, TENN.—Oilseed meal futures, reflecting weakness in soybeans much of the period, dropped the past week on the Memphis Board of Trade, despite a rally early in the week.

The estimate of 528,111,000 bu. of soybeans by the U.S. Department of Agriculture was higher than the trade generally expected, resulting in profit-taking from speculative holders.

Soybean oil meal encountered liquidation in the form of profit-taking sales, based on easiness in soybeans, and reports of continued slow domestic feed business, along with a diminishing volume of export oilseed meal business.

Cottonseed oil meal futures traded as low as $3 a ton beneath the previous week's close before meeting modest support that tended to erase a portion of the earlier losses.

Oilseed meal futures on Nov. 17 advanced on strength of better demand in view of cold weather over the U.S.

Memphis basis soybean oil meal closed Nov. 17 unchanged to 75¢ a ton lower than on Nov. 10; unrestricted soybean oil meal, 25¢ to $1.80 lower, and bulk solvent cottonseed oil meal, 75¢ to $2 lower.

Trading amounted to 8,200 tons of unrestricted soybean oil meal, and 1,300 tons of bulk solvent cottonseed oil meal.

N. W. Feed Group's Christmas Party Set

MINNEAPOLIS — The Northwest Feed Manufacturers Assn. will hold its annual Christmas party Dec. 4 at the Calhoun Beach Hotel in Minneapolis.

The party will start with a social hour at 6:30 p.m., and dinner will be served at 7:45 p.m. A floor show and dancing will follow.

Ted Harstad, Doughboy Industries, New Richmond, Wis., is chairman of the Christmas party committee. Ticket sales, at $10 a couple, are being handled by the association treasurer, Clyde Kennedy, Archer-Daniels-Midland Co.

Current Arsenical Situation Explained

DES MOINES—An explanation of the current Food and Drug Administration policy on arsenicals under the Delaney provision of the food and drug law was included in a recent bulletin from the Animal Health Institute.

The bulletin notes that arsenicals removed from "new drug" status are exempt from the food additive amendment but that FDA will not consider, for the present, any new combinations of the "old drugs," or supplemental new drug applications for the "new drug" arsenicals. Also cited in the report are continuing efforts to clear these products from all implication under the Delaney cancer clause.

Regarding stilbestrol, the bulletin noted that stilbestrol, already covered by new drug applications, can be marketed. Because of the "prior sanctions," such stilbestrol products are not "food additives" and are not covered by the Delaney clause. This does cause inequities, the AHI points out, because of FDA's inability to clear new products, substantially altered products or major marketing changes.

"However," the bulletin adds, "any great pressure could backfire into demand for revocation of existing NDA's for stilbestrol. FDA-ers contend that the product is definitely carcinogenic in some laboratory animals."

Arsenical Situation

FDA officials are quoted as saying the arsenical situation could also be worse than it is.

The AHI went on: "Under current

(Turn to DRUGS, page 105)

Insecticide Added To Cattle Feed

TORONTO, CANADA — Canada Packers, Ltd., has announced that it is now manufacturing and marketing a cattle feed containing a new systemic insecticide for control of the warble grub.

Under the plan, the feeder replaces the regular feed with a new supplement, called "Shur-Gain Warblerid Cattle Supplement 'A'," according to the manufacturer's instructions.

"This is the first time," said D. T. Ross of Canada Packers, "that livestock feeders have been able to attack warbles in this easy way, simply through normal feeding."

The insecticide in the feed is Ronnel (Dow Chemical Co.), which has been marketed in bolus form, in the past under the name Trolene. The insecticide destroys the warble grub in the system of the host animal's body before it has migrated through it.

Mr. Ross said that tests with the insecticide have been conducted at the Shur-Gain farm for the past two years and that the company has obtained government registration to make the feed product available.

"The additional investment required to treat an animal averages about 50¢, depending on the size of the animal," the company said. "The returns for this investment include destruction of the warble grubs, faster, more economical gains with beef cattle or dairy heifers, less damage to beef hides and less loss in carcass trimming.

"Beef cattle, dry cows, growing heifers and bulls can be treated in the new way. However, because of the possibility of residues in the milk, dairy cattle should not be so treated while producing milk for human consumption. The feeding period also is limited because the insecticide can only be used effectively when the grub is in a certain stage within the animal's body. This occurs only during the period of Sept. 15-Dec. 15."

AFMA, NEPPCO to Study Contracting

TRENTON, N.J. — The American Feed Manufacturers Assn. has accepted the Northeastern Poultry Producers Council's invitation for a joint committee of directors to study problems of contract production, integration and financing—and to seek solutions.

This was reported recently in NEPPCO News. Preliminary plans for meetings of the committee are under way and appointments of directors to the committee by both organizations will be announced.

Immediately following the NEPPCO board meeting at Harrisburg, a wire of invitation was sent to a meeting of the AFMA directors. The AFMA directors' action in accepting the invitation was unanimous, according to W. E. Glennon, AFMA president.

Petition Filed for New Coccidiostat

WASHINGTON — The Food and Drug Administration has announced the filing by Dow Chemical Co. of a petition for issuance of a regulation establishing tolerances for Dow's new coccidiostat in feed and in edible portions of chickens.

The petition proposes issuance under the food additive law of a regulation establishing tolerances for 3,5-dinitro-o-toluamide (Zolene).

The announcement, published in the Federal Register, said:

Pursuant to the provisions of the Federal Food, Drug & Cosmetic Act (sec. 409(b)(5), 72 Stat. 1786; 21 U.S.C. 348(b)(5)), the following notice is issued:

A petition has been filed by the Dow Chemical Co., Midland, Mich., proposing the issuance of a regulation to establish tolerances as follows:

(1) 125 parts per million (0.0125%) of 3,5-dinitro-o-toluamide in chicken feed.

(2) 2 parts per million (0.0002%) of 3,5-dinitro-o-toluamide and its metabolite 3-amino-5-nitro-o-toluamide in or on the uncooked muscle meat and fat of chickens fed such medicated feed for the prevention and control of cecal and intestinal coccidiosis.

(3) 6 parts per million (0.0006%) of 3,5-dinitro-o-toluamide and its metabolite 3-amino-5-nitro-o-toluamide in or on the uncooked liver of chickens fed such medicated feed for the prevention and control of cecal and intestinal coccidiosis.

October Egg Output Down 1% from '58

WASHINGTON — There's some chance at least that egg price improvement will arrive sooner than expected.

The U.S. Department of Agriculture says in its latest crop report that farm flocks laid 1% fewer eggs in October of this year than they did in October of last year. October was the first month that egg production was below a year earlier since May, 1958. October's egg production was 4,784 million.

Cutbacks in laying flocks brought about the decrease. A very slight increase in egg production per layer was noted—15.6 for the latest October, compared with 15.5 for the same month last year.

As previously reported in Feedstuffs, layers totaled 312 million Nov. 1, 2% less than on the same date a year earlier. Potential layers (hens and pullets of laying age plus pullets not of laying age) on Nov. 1 were 5% below a year earlier.

Danish Research on Feeding For Leaner Pigs Described

By ROGER BERGLUND
Feedstuffs Managing Editor

BUFFALO, N.Y. — In Denmark, there is only one pig breed, and only one carcass quality is aimed at—the meaty pig for pork and bacon.

Limited feeding plans to produce this lean pork and research on the feeding of pigs for production of lean pork were described at the recent Cornell Nutrition Conference by Dr. Hjalmar Claussen of the Royal Veterinary and Agricultural College and the National Research Institute of Animal Husbandry, Copenhagen, Denmark.

Because of certain formulation differences and labor requirements in hand feeding, most U.S. feed men do not consider the present Danish systems applicable in this country. However, the research information, outlined by Dr. Claussen was among the reports attracting the most interest at the Cornell conference.

(Summaries of other Cornell papers appeared in the Nov. 14 issue of Feedstuffs. In addition to Dr. Claussen's talk, a paper on rumen development, not previously reviewed, is summarized below.)

At the outset, the well known Danish nutrition authority listed three general principles for the production of lean meat:

1. No pig can produce meat up to level limited by its genes without being fed a sufficient quantity of protein.

Dr. Claussen presented data showing that when increasing the level of protein up to 1.5 kilos skim milk and 110 grams protein concentrate (soybean meal and meat and bone meal) per pig daily, the feed consumption per kilo of grain decreases and the carcass quality is improved to a very high extent.

2. No pig can, through extraordinary high levels of protein in the feed, be forced to produce more meat than limited by its genes. Data illustrating this principle also were shown. Selection of boars and sows with the best possible genetic ability to produce carcasses with a high content of meat is therefore of the utmost importance, Dr. Claussen said.

3. When the daily requirements for maintenance and meat production have been covered, the rest of the daily intake of feed will be utilized for production of fat; that is, the higher the daily intake of energy, the fatter the pig.

Dr. Claussen presented data illustrating this principle and added: "Until the genotype for meat production of pigs in general has been shifted to allow for ad lib. feeding without the pigs getting too fat, these must be fed limited, when production of lean meat is the goal."

Discussing methods of limited feeding, he noted that several scientists have said limited feeding can be attained even if self-feeding is practiced, when the ration is "diluted" by a "filler" having a low content of dry matter or high content of fiber.

Dr. Claussen described results of Danish experiments in which beet pulp silage, corn silage and ground oat straw have been used as "fillers." From the results, he concluded: "The 'fillers' have, in semi ad lib. feeding, reduced the daily energy intake and therefore the speed of growth. The thickness of back fat was also reduced, but at the same time, the back fat became softer. Simultaneously the feed consumption per kilo of live weight increased to such an extent that the payment for the filler used has been negligible. Therefore, we do not dare to recommend this system of limited feeding."

He said other programs where feed was limited by not feeding on certain days of the week, showed, in general, results similar to the experiments with "fillers."

Due to the high labor costs of restricted feeding by hand, Dr. Claussen continued, it is hoped that technicians will be able to construct a self-feeder which can weigh out daily rations accurately according to the scale for limited feeding.

Amino Acids

He went on to note that protein quality (amino acids in the right quantities and ratio) as well as quantity is important in assuring the best possible carcass quality. However, he said, little is known about the amino acid requirements for meat production, which most likely are not identical with the amino acid requirements for live weight gains.

Dr. Claussen described studies with various protein sources. For example, he said that when 3 kilos of skim milk per pig daily as protein supplement together with barley at limited feeding is replaced by 1 kilo of skim milk and 150 grams of protein concentrate, the daily gain increases and feed efficiency improves, but meatiness of the pigs is reduced. Work with other protein sources and amounts also was outlined.

"Up to now," Dr. Claussen said, "it has been impossible for us in Denmark to replace skim milk as a meat-producing factor in pig production."

He also reported that even when the daily protein supplementation by milk and/or protein concentrates is unchanged, a replacement of one kind of grain by another can adversely affect carcass quality. He cited a test

(Turn to DANISH RESEARCHER, page 105)

Dr. Conwell Johnson

Dr. Earl Baldwin

Forrest Goetsch

Dr. A. H. Groth

VET-NUTRITION SPEAKERS—Shown are four of the speakers who will appear on the program at the 2nd annual Veterinary-Nutrition Conference at the Hotel President in Kansas City Nov. 30-Dec. 1. They are (left to right): Dr. Conwell Johnson, General Mills, Inc., Indianola, Iowa; Dr. Earl Baldwin, Baldwin Laboratories, Omaha; Forrest Goetsch, Doane Agricultural Service, St. Louis, and Dr. A. H. Groth, dean of veterinary medicine, University of Missouri. Also two addresses have been added to the program recently: "Experiences with Feedlot Diseases," by Dr. Donald R. Mackey, veterinarian at Greeley, Colo., and "The Veterinarian Looks at Contract Farming," by Dr. Frank W. Jordan, practicing veterinarian at Abilene, Kansas. Special arrangements have been made for all those registered at the conference to receive a reduction of 75¢ in price to see the film, South Pacific, in Todd-AO production. The conference is sponsored by the Midwest Feed Manufacturers Assn. in cooperation with state veterinary medical associations.

Some Ingredient Prices Decline

WASHINGTON—Prices of several major ingredients slipped back this week after showing increased strength recently, according to the latest nation-wide price reported from the U.S. Department of Agriculture.

Soybean meal showed a weakening of about $1, and tankage and fish meal were both down more than a dollar. Decreases in wheat millfeeds were also indicated. Alfalfa meal went up in the face of firm holdings.

Average Bulk Prices and Index of Weighted Prices*
(Dollars per ton)

	Nov. 17, 1959	Nov. 10, 1959	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.:			
Soybean meal	67.80	68.95	—1.15
Cottonseed meal	67.95	68.00	— .05
Linseed meal	77.65	77.15	+ .50
Copra cake or meal	69.25	68.50	+ .75
Peanut meal	65.25	63.00	+2.25
Index	89.3	90.2	— .9
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.:			
Meat meal	73.25	73.40	— .15
Tankage	70.20	71.50	—1.30
Fish meal	114.50	116.00	—1.50
Index	71.2	71.8	— .6
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.:			
Gluten feed & meal	45.60	45.60	...
Dist. dried grains	49.25	48.75	+ .50
Brewers dried grains	46.15	43.30	+2.85
Index	71.9	71.3	+ .6
WHEAT MILLFEEDS			
Prices at prin. mkts.:			
Bran	39.60	40.15	— .55
Midds. and shorts	41.00	42.85	—1.85
Index	72.8	75.0	—2.2
OTHER MILLFEEDS			
Prices at prin. mkts.:			
Hominy feed	43.60	42.85	+ .75
Rice bran	33.50	33.00	+ .50
Index	67.7	66.5	+1.2
ALFALFA MEAL			
Prices at prin. mkts.	56.20	55.80	+ .40
Index	108.2	107.4	+ .8
MOLASSES, FEEDING			
Prices at prin. mkts.	23.00	23.00	...
Index	68.4	68.4	...
ALL FEEDSTUFFS			
Index	81.2	82.0	— .8
FEED GRAINS			
Prices at prin. mkts.:			
Corn	38.70	38.70	...
Oats	48.60	48.50	+ .10
Barley	43.80	43.80	...
Grain sorghums	35.80	36.10	— .30
Index	64.1	64.0	+ .1

*Base period of index is 1947-49.

Source: Agricultural Marketing Service, USDA.

Arkansas Turkey Group Program Set

BERRYVILLE, ARK. — The program for the annual meeting of the Arkansas Turkey Federation, to be held here Dec. 4-5, has been announced by Roy Ritter of Springdale, federation president.

Registration of guests and live turkeys for the judging contests will be from 8 to 12 a.m. Dec. 4. Live birds will ge judged by Roy Ferguson, Shawnee, Okla., from 12:30 to 3 p.m. that day.

Dressed birds will be judged at the Ocoma Foods Plant from 8 to 10 a.m. Dec. 5. The annual business meeting of the federation will be held at the same time at the National Guard Armory.

A special educational program will be held the morning of Dec. 5. Guest speakers include Alex Gordeuk, Chicago; Dr. Marion Hammarlund, St. Louis; Dr. E. L. Stephenson, Fayetteville, Ark., and Ozzie Franz, Green Forest, Ark.

The Dec. 5 afternoon program includes a special panel discussion, "Your Turkey Problems," moderated by Raymond J. Higgins of General Mills, Inc. Also scheduled that afternoon is a discussion, "What the National Turkey Federation is Doing for You," by M. C. Small, executive secretary of the National Turkey Federation.

Canadian Carryover Of Grain Down

WINNIPEG—Total stocks of Canada's four major grains carried over into the 1959-60 season were smaller than last year's carryover because of substantially reduced stocks of wheat, oats and rye. Barley stocks were somewhat larger than the carryover on Aug. 1, 1958, it is reported by the Dominion Bureau of Statistics.

Total stocks of wheat in all positions on Aug. 1 were estimated at 546 3 million bushels, 15% below the 1958 carryover and 25% below the record carryover in 1957. An estimated 130 million bushels of this year's total were held on farms. This is sharply below the farm stocks of 232 million on Aug. 1, 1958.

Stocks of oats on Aug. 1 were 119.3 million bushels—23% smaller than at the beginning of 1958-59. Farm stocks were estimated at 80 million bushels, about average, but well below the 108 million bushels in that position a year earlier. Barley carryover of 127.1 million bushels was 8% larger than the stocks held Aug. 1, 1959, and 41% above the 10-year average, 1949-58.

Ray Ewing Co., Merck To Handle Serpasil

SUMMIT, N.J.—The appointment of Ray Ewing Co. and Merck & Co., Inc., as national distributors for Serpasil Premix, a new anti-stress poultry feed additive, has been announced by CIBA Pharmaceutical Products Inc.

Ray Ewing Co. maintains headquarters in Pasadena, Cal., and branch offices in Lancaster, Pa.; Boone and Council Bluffs, Iowa, and Fort Worth, Texas.

Merck & Co., Inc., which will channel Serpasil distribution through its chemical division, is located at Rahway, N.J., with branches in Teterboro, N.J.; St. Louis, Mo., and Los Angeles. In addition to marketing Serpasil in standardized premix concentrations, both firms also will make the product available in special mixtures

Serpasil Premix is specifically intended to reduce the effects of stress on poultry, officials explained. Among the benefits reported from its commercial applications are increased egg production, reduction in egg-shell checking, improved feed conversion, increased egg-shell thickness and less feed waste.

BRIEFING SESSION—At a national sales conference held at Pasadena, Cal., the staff of the Ray Ewing Co. was briefed on the newest addition to the firm's product line, Serpasil, a CIBA anti-stress poultry feed premix. In the picture, A. O. Leskinen, sales manager, feed additive division, CIBA Pharmaceutical Products Inc., points out to Ray Ewing (lower left) research evidence in the Serpasil sales manual. Looking on are Dr. E. L. Parker, professor of poultry science, Arizona State College (lower right); Dr. George Belloff, CIBA senior veterinarian (upper right), and Dr. Herbert Wilgus, director of research, Ray Ewing Co. (upper middle).

PENB Sets Policy On Egg Council

CHICAGO — Ralph J. Thomas, president of the Poultry and Egg National Board, has announced the organization's policy toward the National Egg Council and its affiliated State Egg Councils, as adopted at PENB's board of directors' meeting in Chicago recently.

Terms of the policy are:

NATIONAL EGG COUNCIL—PENB believes in the objectives of the National Egg Council and will cooperate with the council in achieving its objectives.

STATE EGG COUNCILS—PENB believes in the organization of the state egg councils whose objectives parallel those of the National Egg Council; PENB will authorize state egg councils to work with PENB in a joint state set-aside program to obtain funds for promotion. This will be on an affiliation agreement basis, and PENB's educational and promotional materials will be available for purchase by state egg councils for use in the furtherance of the national program on state and local levels.

Mr. Thomas stated this policy was being released to the poultry industry to clarify any misunderstanding on PENB's position toward the national organization and its affiliated state councils.

"It is the deseire of PENB's staff," said Mr. Thomas, "to cooperate in any way it can it stimulate progress in the egg industry."

POULTRY

(Continued from page 1)

fully offset by increased rates of lay per bird.

● **Broiler production** the first half of the year likely will be down from 1959, but these cuts may raise prices enough to induce increases in output the latter part of 1960. Then output for the year may be 3 or 4% above 1959. Prices may be slightly above the 16¢ in sight as the 1959 average.

● **Turkey production** may duplicate or slightly exceed the 1959 record crop of 82 million birds. Prices may not be much different from the 23¢ lb. seen as this year's average.

Commenting on the general situation, Mr. Karpoff said, "With the usual qualifications that are necessary in describing the future in an industry that is full of uncertainties, it seems that 1960 aggregate output of eggs and poultry meat will be little if any above the 1959 output, so one of the 1959 pressures toward the low prices will be relieved."

Mr. Karpoff pointed out that during the spring of 1959, egg production was as much as 11% above the year before. In one month—March—broiler chick hatchings were up 20%, and the total 1959 turkey crop is a record 5% above the year before, he noted.

In 1960, egg production is likely to be a little below 1959; broiler production up slightly, but only because of late-season increases, and turkey production may merely duplicate, or only slightly exceed, the 1959 record, he said.

The evidence already points toward these expectations of no runaway production increases, he declared.

Mr. Karpoff made the following comments on egg, broiler and turkey production:

EGG PRODUCTION—The October 1 flock of potential layers was 4% below the comparable date a year earlier. This suggests a Jan. 1, 1960, laying flock that will fall below a year earlier by a slightly smaller percentage, perhaps 3 or 4%. Particularly at the higher end of that range, the potential reduction in flock size is greater than is likely to be offset by increases in rate of lay.

Birds already included among current potential layers and in recent chick hatchings are the source of egg-supply to mid-summer 1960. After that, egg production will increasingly be influenced by pullets that are not yet hatched. I think that forthcoming hatches will reflect the very sobering influence of low egg prices in the year now closing. Certainly the 16% cuts in September hatchings of egg-type chicks, and in Oct. 1 eggs in incubators are consistent with this belief. Actually, I expect the average cut in the hatch to be smaller than the October decline of 16%—a 5 or 6% cut is more likely. But that would be a deeper cut than could be fully offset by increased rates of lay per bird.

The result is likely to be smaller egg production in 1960 than in 1959, and the production will be divided among a larger population. The inevitable result will be a decline in per capita supplies, and hence in per capita consumption. But on account of the seemingly declining demand for eggs, we should not look for sharp price rises for eggs. My judgment is toward an annual average increase of perhaps 2 or 3¢ doz. above the prospective 1959 average of about 32¢ doz. The increase probably won't begin until about the second quarter of the year.

BROILER PRODUCTION — For the first half of 1960, indications for broiler production also point downward. These indications may result in cuts sharp enough to raise prices to levels that will induce increases in output in the last four or five months of the year. In that event, production for the year may be 3 or 4% above the prospective 1959 output of 1.7 billion broilers. Prices probably will be slightly higher than the 16¢ in sight as the 1959 average.

TURKEY PRODUCTION — Marketings are still under way from the record 1959 turkey crop of 82 million birds, and the year seems to be closing with prices firm. This may induce a repetition in 1960 of the current record crop which would likely sell at prices not much different from the 23¢ lb. foreseen as this year's average. We already have a survey of farmers' intentions to keep turkey breeder hens. This calls for a 22% increase over last year in the number of heavy white breeder hens to be on hand Jan. 1, 1960, a 9% decrease in Bronze hens and a 16% decrease in Beltsvilles. This averages out to a 4% decrease. The possibilities for increases from these intentions depend upon prices remaining firm and for a continuing increase in the poults raised per breeder hen kept. Both of these seem realistic, and they suggest that a prediction of another large turkey crop in 1960 is well within reason.

The breeder intentions fail to reflect the fact that heavy tom turkeys in the past year have been the only class consistently higher-priced than the year before. This may induce greater departure from intentions for Bronze turkeys than for the other varieties.

"The outlook that I have drawn for you will result in an increase in the income of poultry farmers for 1960," Mr. Karpoff said. "The value of their production in 1959 will be on the order of $3.1 billion. For 1960 it may be about $3.3 billion.

"Because the increase will be mostly a consequence of higher prices rather than of larger volume, and because slightly declining feed prices are likely to keep production costs steady, most of this increase in gross income will be carried over into net income," he added.

Mr. Karpoff pointed out that there are "a host" of background factors that will influence prospective prices and quantities. He named the price-cost squeeze, further developments in integration and contracting, egg price quotation systems and price determination, the decline in demand for eggs and the size of the export market.

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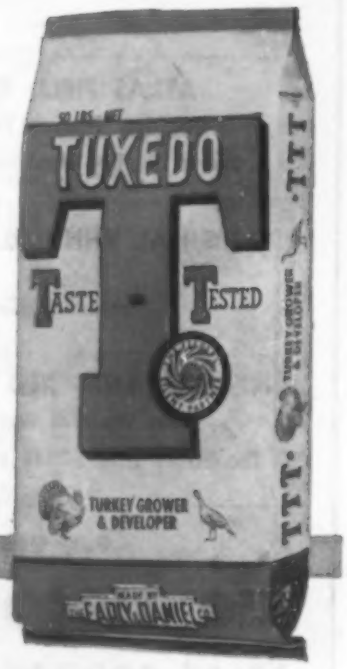

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Much Improvement in Dairy Situation Predicted by USDA Marketing Service

WASHINGTON — M u c h improvement in the dairy situation is predicted for 1960 by the agricultural marketing service of the U.S. Department of Agriculture.

In an outlook report, USDA said that consumption and supplies of all dairy products combined on a milkfat basis are likely to be approximately in balance in 1960, in contrast with the last seven years when milk production most of the time exceeded commercial use at support prices.

However, the report points out, the improved situation in prospect does not mean that the dairy industry's longer-term problems are all solved. With a decline in beef prices in prospect within the next few years, there is the possibility that production may increase enough again to cause surpluses.

The reasons for this include prospective continued low hog prices through 1960, the definite possibility that beef cattle prices will start downward within the next year or 18 months and that any significant rise in milk prices above supports in the next year or two will generate optimism among dairy farmers and lead to increased milk production.

At the same time, prospects are not bright for an increase in per capita demand for dairy products, particularly on a milkfat basis. The little increase that may come for reasons of a shift in age composition of population and shift in incomes to higher levels may be fully offset, if not more so, by an unfavorable shift in consumers' tastes and preferences and by continued long-term increases in supplies of vegetable oils, together with relatively lower prices for such oils. This could lead to a still further rise in consumption of margarine at the expense of butter.

Following is a summary of other information contained in the report:

Supplies of solids-not-fat will continue to exceed commercial consumption at support levels. At times during 1960, prices to farmers for milk and butterfat probably will be above 1959 levels, giving a higher average for the year as a whole.

The volume of dairy products sold by farmers probably will reach a new high next year, resulting in record cash receipts from the sale of dairy products.

Net Income to Hold Up

Feed prices probably will be lower in 1960, the marketing service believes. Production expenses for several other items used in farm production, however, will be higher. The net income from dairy enterprise probably will total at least as high as in 1959, if not higher.

Production of milk declined slightly in both 1958 and 1959, after increasing from 115 billion lb. in 1952 to 125.9 billion in 1957. The total for this year will be about 124.7 billion lb. In the past decade, particularly, the level of milk production has become more closely related to developments in the meat animal industry, especially beef cattle. This stems from the fact that the demand for beef is expanding relative to other farm products and is attracting resources from several farm enterprises, including dairying.

There has been a net relative transfer of resources out of dairying each year, the rate depending considerably upon the relationship between beef and milk prices. A brief letup in this transfer out of dairying could lead to a substantial rise in milk output. Sharply declining beef prices were largely responsible for the increase of 5.5 billion lb. in 1953. That year was the only time since 1944 that milk cow numbers increased. Their rate of decrease has been influenced largely by the milk-beef price relationships, though hog prices and feed prices also have had some influence.

The gradual increase in milk production from 1954 through 1957, and the leveling-off since have been the result of delicate balance among three factors:

(1) Rising production per cow;

(2) Rising numbers of milk cows per farm;

(3) Reduction in total numbers of milk cows associated with the rather sharp annual reductions in numbers of farms with milk cows.

The third factor has been especially susceptible to influence by changes in beef cattle industry.

The number of beef cattle has been building up rapidly the last two years, after a record short period of decline and is likely to continue to increase several more years. Marketings for slaughter probably will begin to increase in 1960, and prices are likely to begin to decline. The decline is not likely to be sharp unless drouth triggers a rapid increase in cattle marketings.

Lower beef prices in prospect for the early 1960s, together with continued large roughage supplies and growing supplies of feed concentrates in all probability will result in increased milk output. It appears that the stage is being set for such a reaction in 1960, with just enough price strengthening among dairy products to give dairy farmers renewed confidence.

PRESENTATION—Larry Alley, vice president, Pay Way Feed Mills, Kansas City, and chairman of the board of trustees, Feed Production School, Inc., presents 1959 production school transcripts to Nikolai Leonov, Moscow, leader of this group of Russian agricultural experts which recently visited the U.S. Pictured, left to right, are: Nikolai Lobin, Moscow, division manager, Union Scientific Research Institute for Poultry; Dr. V. John Brensike, technical leader, U.S. Department of Agriculture; Mr. Alley; Mr. Leonov; Mrs. Liliya Bazanova, Moscow, Soviet economist and interpreter for the Russian delegation; Anatoli Terkhanov, Leningrad, chief engineer, mixed feeds plant, Leningrad; Aleksei Bobrov, Moscow, head, department of elevators, milling and mixed feeds industries, State Committee of Production of Grains, and Basil Lukianoff, interpreter, U.S. State Department.

Russian Group Visits U.S. Feed Facilities

KANSAS CITY—A group of Russian agricultural experts recently visited experiment stations, feed industry facilities and poultry and livestock production operations on a tour of Washington, D. C., and the states of Georgia, Missouri, Iowa, Illinois, Wisconsin and New York.

The Russian group was one of a number of foreign teams sponsored by the Department of State under its technical and cultural exchange program.

Objectives of the tour were: (1) To observe and learn about some of the animal nutrition research work conducted in the U.S., (2) to see the results of some of these research findings applied to livestock and poultry production, (3) to observe and learn about how these formula feeds are mixed and (4) to visit plants manufacturing some of the by-products used in these mixed feeds as well as some of the manufacturers of grain handling and mixing equipment.

In fulfilling these objectives the team visited the U.S. Department of Agriculture research farm at Beltsville, Md., four state colleges of agriculture and two privately conducted research operations. The group also visited formula feed plants, manufacturers of by-products, manufacturers of feed mixing equipment, broiler, hog, beef, and dairy producers as well as related industries, industry associations and boards of trade.

At Kansas City, the Russians visited the Bartlett Elevator, Butler Manufacturing Co., Pay Way Feed Mills, Inc., and Ralston Purina plants. Desert Gold Feed Co. at Liberty, Mo., was included in the tour also. Local arrangements were made by Lloyd Larson, president, Feed Production School, Inc., Kansas City.

INCORPORATED

GREELEY, COLO.—Schank Feed Co. has been incorporated to engage in sale at wholesale and retail of feed, seed, grain and livestock feed by these incorporators and directors: Thomas L. Schank, Constance A. Schank, Thomas D. Schank, Harry H. Schank and Barbara A. Noxon.

New Firm to Operate Feedlot, Handle Feed

PHOENIX, ARIZ.—The Echeverria Feeding Co., Inc., has been incorporated, listing $600,000 capitalization to conduct a custom feeding operation for feeding cattle and sheep. The firm also will manufacture, buy and sell feed for cattle, operate slaughterhouses and process meat for market.

Incorporators include Robert F., Roy A., Julio J., Phillip and Mikel Echeverria, and Rudolph Lee. All are from Casa Grande.

ATLAS ANNOUNCES

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	BALER TWINE	BINDER TWINE	ROUND-TY	FOB DOCKS AT PORT OF:
ATLAS FIELD TEST "Golden" Harvest Twines	215′-265 lb.	525′-90 lb.	750′-60 lb.	
Finest Quality Mexican Twines	$5.90 bl.	$7.25 bl.	$6.25 bl.	New Orleans/Houston
	$6.00 bl.	$7.35 bl.	$6.35 bl.	Philadelphia/New York
ORIGINAL WINDMILL BRAND	231′-325 lb. 257′-290 lb.	500′-110 lb. 600′-100 lb.	750′-80 lb.	
Twines	$7.60 bl.	$8.80 bl. $9.80 bl.	$7.30 bl.	New Orleans/Houston Philadelphia/New York
Holland Made	$7.75 bl.	$9.00 bl. $10.00 bl.	$7.45 bl.	Chicago
HEGA BRAND "RED SIGNAL"	231′-325 lb.	600′-100 lb.		
From Western Germany	$7.60 bl.	$9.80 bl.		New Orleans/Houston Philadelphia/New York
The Twine with SOMETHING Extra	$7.75 bl.	$10.00 bl.		Chicago

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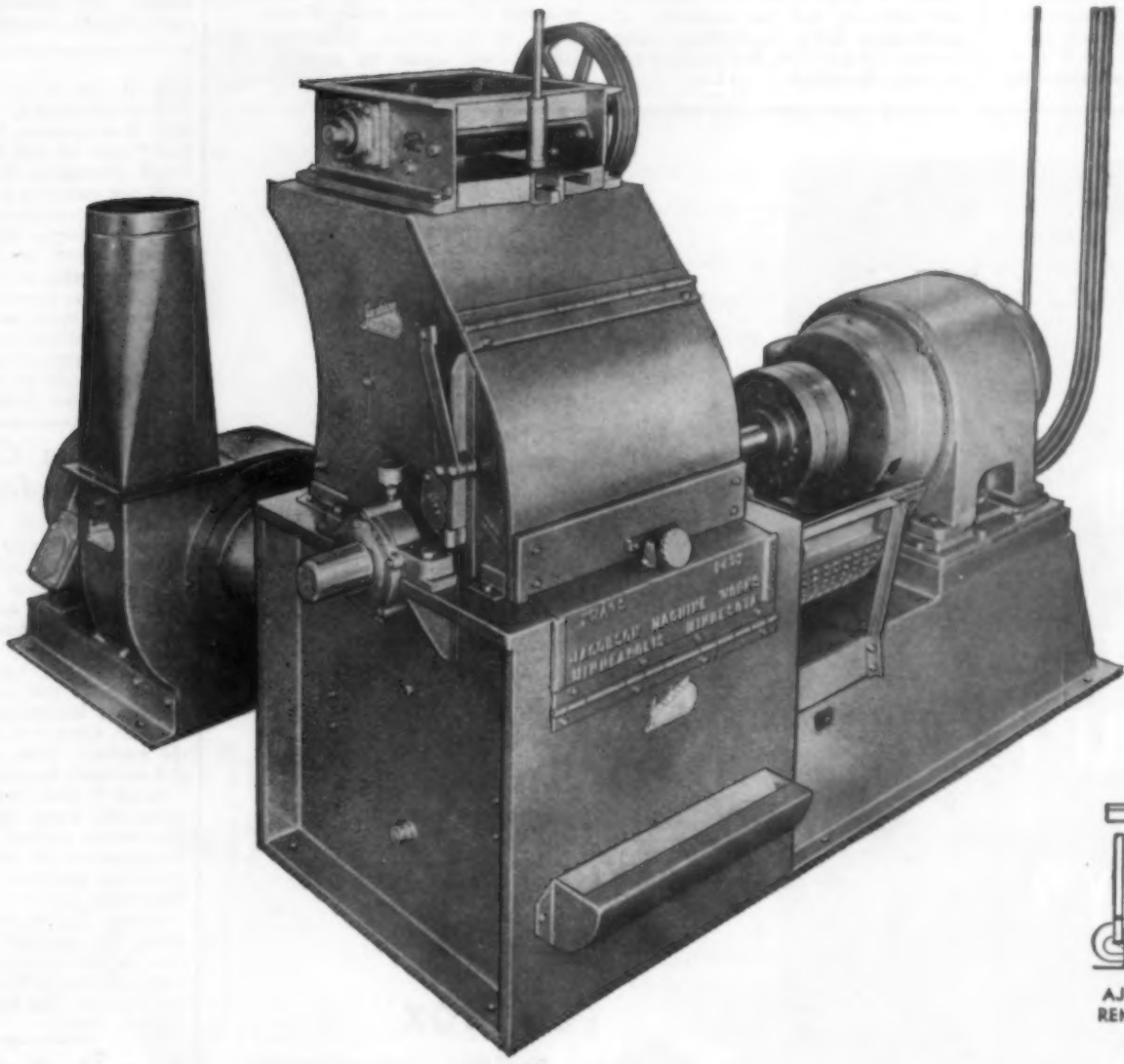

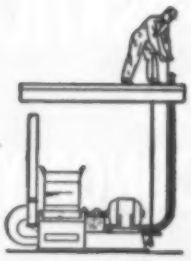

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Integration Trend Inevitable: Economist

BERKELEY, CAL.—The trend toward vertical integration in agriculture is almost inevitable, according to Dr. G. Alvin Carpenter, economist at the agricultural extension service of the University of California. But the capable and efficient farmer need have no fear of this trend, he told members of the California Wool Growers Assn. recently.

Such a farmer is likely to "find an opportunity to expand his business, reduce his risks and increase his profits," Dr. Carpenter said. "With proper direction, integration will result in increased production and distribution efficiency, added control of quality, a more even flow of products seasonally and geographically, less risk of price and income variations to the producer, more rapid adaptation to scientific and technological innovations and increased incomes to many producers who have become part of the integrated system."

The threat may come only to the inefficient, high-cost farmer, Dr. Carpenter said, because he can't sell and make a profit on the same market as can the efficient, integrated operator.

The essence of vertical integration, according to Dr. Carpenter, is the extension of influence or control over the detailed actions of one level in the distribution system by another level. Present marketing trends indicate a great need for closer coordination between the various levels, he said. Vertical integration is emphasized much more heavily today because it answers such needs as more readily accessible capital, better balanced management, solutions to marketing problems, elimination of duplication and unnecessary expenses and the possibility of cooperating firms to improve their competitive positions and chances for survival, he added.

Speakers for Vitamin Chemist Meetings Set

CHICAGO — Speakers have been announced for the 1959-60 program of the Association of Vitamin Chemists.

Already heard from during the monthly sessions were Dr. Richard Gordon, Monsanto Chemical Co., giving an extensive review on the role of antioxidants in animal feeds, and Dr. J. Stamler, Chicago Board of Health, Heart Control Center, talking on studies on the epidemiology and prevention of atherosclerotic heart disease.

The next program, scheduled for Dec. 3, will have Dr. George Wolf of the University of Illinois speaking on metabolism and function of vitamin A. On Jan. 21, Dr. O. Wilder, American Meat Institute Foundation, will talk on energy value of fats.

Dr. D. E. Becker, University of Illinois, will speak on protein and amino acid requirements of swine Feb. 11. Dr. P. E. Waibel, University of Minnesota, will talk on recent developments in poultry nutrition March 10, and Richard J. Block, Boyce Thompson Institute, will address the group on protein and amino acid supplementation May 12.

The meetings, held at the Illini Union Building, are open to the public. Membership in the group is open to those who have an academic degree in the basic or applied sciences or the equivalent in experience and two years' experience in the field of vitamin chemistry, technology, nutrition or related fields.

Melvin Carlson Richard Severson

PERSONNEL CHANGES — Richard Severson, assistant territory supervisor for Kent Feeds, Inc., in the area surrounding Marshalltown, Iowa, has been promoted to sales administrator. He will be assigned to the headquarter office of Kent Feeds in Muscatine, Iowa. Melvin Carlson, a recent sales trainee, will assume the duties vacated by Mr. Severson's promotion.

Ohio Bag Corporation Makes Sales Changes

MIDDLETOWN, OHIO — D. F. Wicks, general sales manager of Raymond Bag Corp., Middletown, a division of Albemarle Paper Manufacturing Co., has announced several changes in Raymond's sales organization.

C. R. Keener has been appointed salesman in the central district, which has headquarters in Louisville, Ky. Mr. Keener is representative in the southern Ohio, southern Indiana, and northern Kentucky area.

Ralph T. Rose recently joined Raymond Bag Corp. as salesman in the midwestern district. Mr. Rose, whose headquarters are in Chicago, is representing Raymond in the Chicago-Wisconsin area.

George Clifton, formerly of Richmond, Va., has been appointed salesman in the midwestern district. Mr. Clifton's area is Michigan and northern Indiana. His headquarters are in Detroit, Mich.

New Broiler Firm

CLINTON, ARK.—D&S Feed Co., Inc., Clinton, a new firm, has been organized here to enter the broiler feeding business, it was announced recently.

Incorporators of the new company are John A. Hall, D. H. Hubbard and S. O. Hall. Mr. Hubbard has been named general manager of the company and secretary-treasurer of the corporation and will directly supervise broiler feeding operations.

Mr. Hubbard said the firm will specialize in bulk feed delivered directly to broiler houses.

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W. B. (Bill) Robinson
Robinson Grain Company
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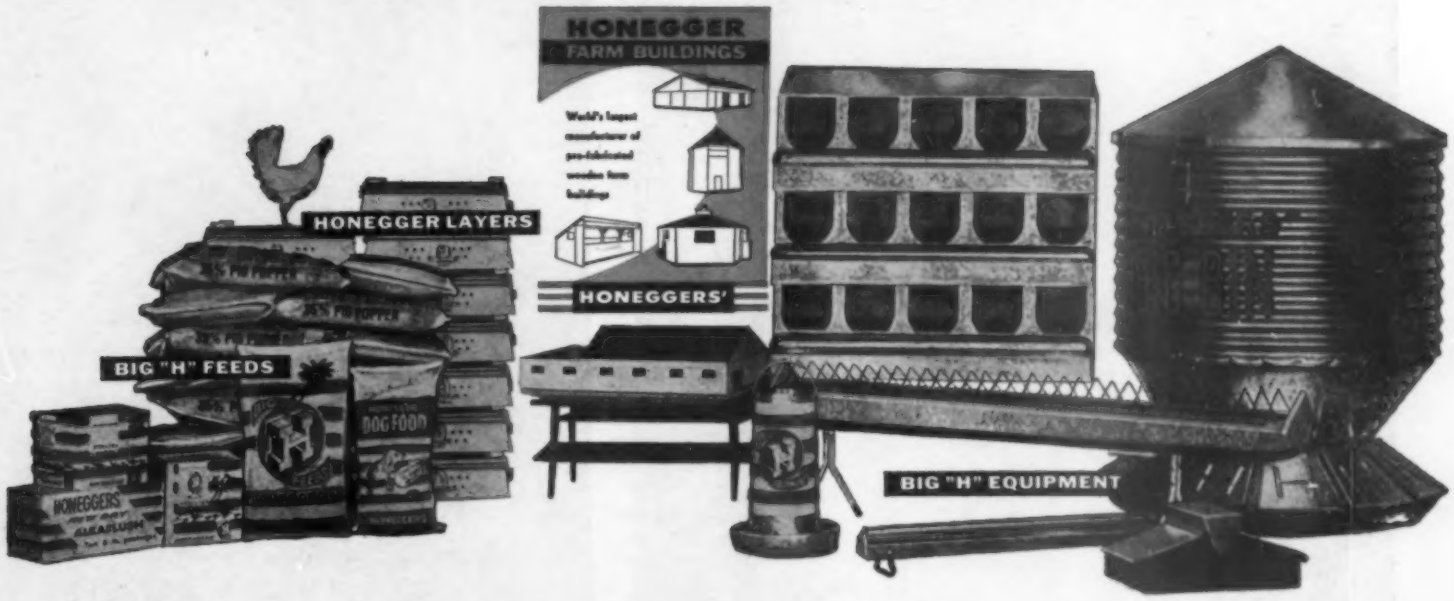

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Ontario Feed Men Set Meeting Dec. 2

TORONTO, ONT.—The 1959 annual meeting and convention of the Ontario Retail Feed Dealers Assn. presents an array of speakers on trade topics Dec. 2 in the King Edward Hotel, Toronto.

At the conclusion of the business portion of the meeting, Prof. W. E. Tossells, department of field husbandry, Ontario Agricultural College, will lead off the morning session with a report on new varieties of cereal grains and grasses. Prof. Tossells also has studied promotional and selling techniques designed to prove of value to dealers in their seed sales programs.

A professional merchandising consultant and market analyst, Cliff G. Bowes, Chicago, climaxes the morning session. Mr. Bowes heads his own consulting firm and his services are retained by merchandising organizations in both Canada and the U.S.

A Canadian industrialist and speaker on business and foreign affairs will address the convention luncheon session. E. Abaroa presently holds the position of general manager, Western Hemisphere export division of Massey-Ferguson Limited. The speaker has been associated with the farm implement industry for over 40 years, taking employment with an Argentine distributorship in 1917.

Agricultural attaches and representatives from foreign diplomatic agencies stationed in Ottawa will be introduced and bring greetings from their governments as the afternoon session convenes.

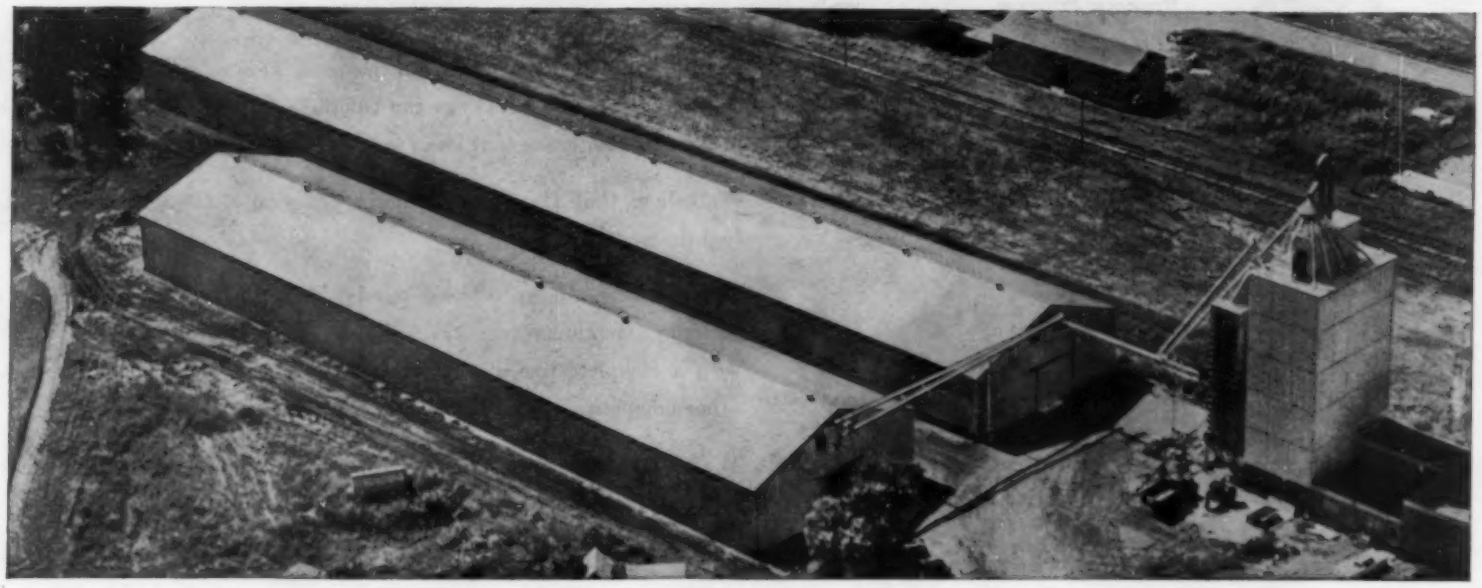
Ralph K. Bennett, chief, merchandising section, livestock production and marketing branch of the federal Department of Agriculture, will speak. Mr. Bennett was given the task of developing an acceptable and effective method of implementing the system of deficiency payments on hogs, both from an operational and administrative standpoint. The practical application of this program and the production and economic prospects facing the livestock industry will be discussed.

F. Olson Joins ADM Linseed Operations

MINNEAPOLIS — Fred C. Olson has joined Archer-Daniels-Midland Co. as manager of linseed operations, according to a recent announcement.

Mr. Olson, formerly flax specialist for the Farmers Union Grain Terminal Assn., will be responsible for all phases of ADM's linseed operations. He will assume his new duties Dec. 1.

He joined FUGTA in 1939 as a clerk and transferred into the marketing of oilseeds and grains in 1944. Since 1946 Mr. Olson has been FUGTA's flax specialist at the Minneapolis Grain Exchange.



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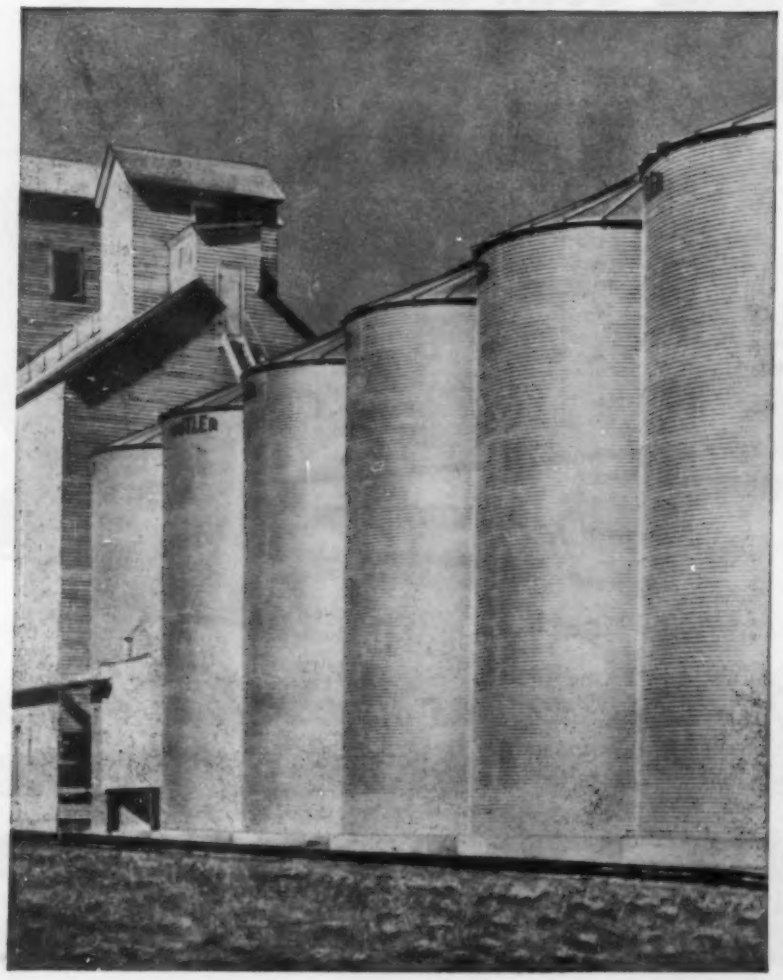
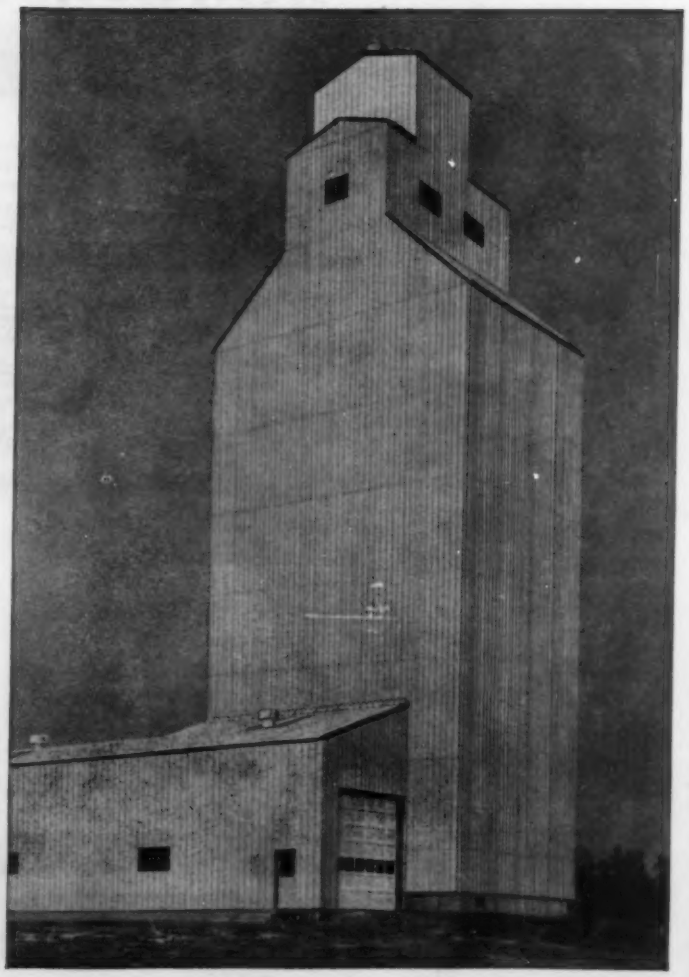




Tests Show Advantages Of Fat in Steer Ration

CHICAGO—The addition of animal fat to the grain ration of steers has been found to have a number of advantages during experiments conducted at the University of North Carolina.

Dr. E. R. Barrick, head of the department of animal husbandry, has reported that a number of benefits were derived from adding fats to steer rations and dry lot feeding, as well as by adding fats to self fed grain rations of steers on pasture.

Dr. Barrick's report has been circulated to the public by Gene Hopton, chairman of the research committee, National Renderers Assn., Chicago.

Some improvement in rate of gain was listed as one advantage of adding fats to rations for dry lot feeding. In four experiments the addition of 5% fat showed a 10% saving in the amount of feed required per pound of gain. There also was less dusting and thus less loss of feed from troughs because of wind, and carcasses tended to grade a little higher.

Advantages of adding fats to self fed grain rations of steers on pasture were reported to be: Less wind loss; an increase in the rate of gain; ration could be self fed as steers would not overeat; rates of gain were more uniform because in dry weather when pastures were poor, steers used more of the grain ration and returns per animal were increased with the price relationship existing between corn and fat during the past three years.

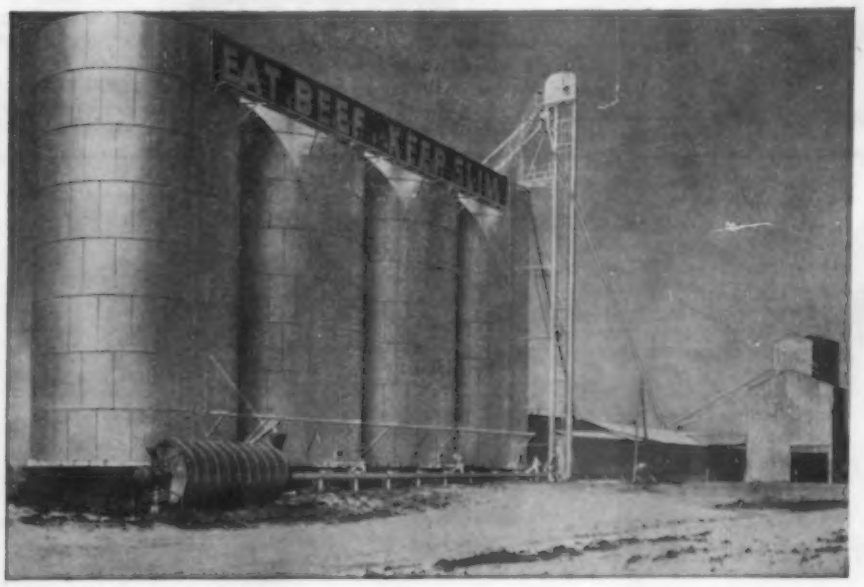
OREGON FIRM MOVES

SALEM, ORE.—Bashford's Feed & Seed has moved into a permanent location at 500 S.E. Lane Ave., the former Northwest Turkey Growers Assn. building. The business is owned by Robert Bashford and his wife, Rosemary, who recently filed articles of incorporation in Salem listing 500 shares of no par value. Mr. Bashford is the son of Al Bashford, long time owner of Douglas Flour Mills, which was destroyed in the Roseburg explosion Aug. 7.

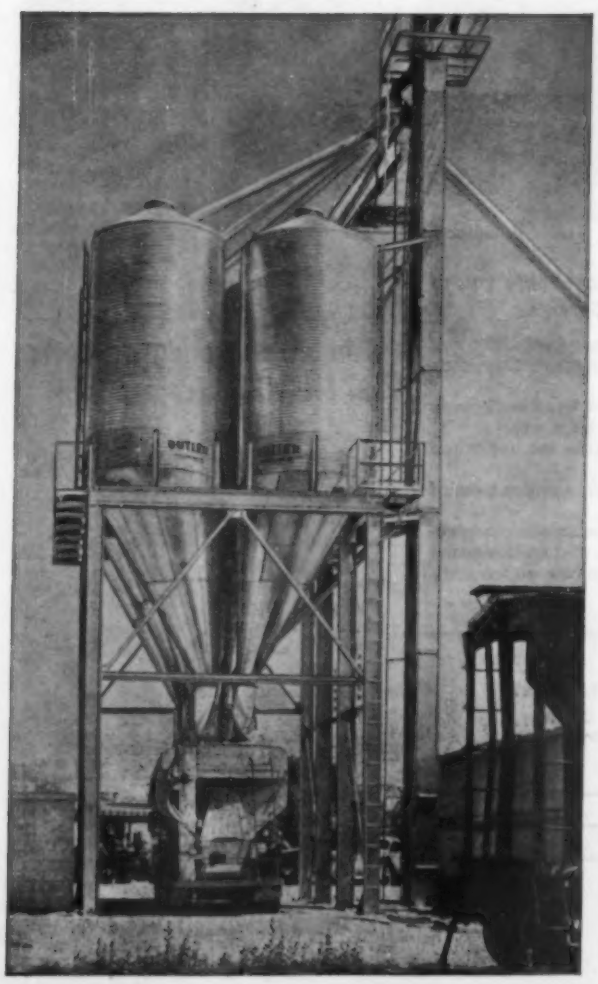
Florida Poultrymen To Convene Jan. 16

LAKELAND, FLA.—James Wells, president of the Florida State Poultry Producers Assn., has announced that the association will hold its annual winter meeting on Jan. 16 at the Angebilt Hotel, Orlando, Fla.

He said plans are being made to accommodate a larger crowd for this meeting than the record-breaking attendance at the previous winter meeting. Many of the committees handling arrangements have been appointed and are working to assure the Florida poultrymen of the "best in program and entertainment."



Bolted Tanks...



Butler has the answer to your storage problem

Whatever your storage needs...whatever your problems...Butler has pre-engineered, all-metal structures that will fit your requirements... enable you to build well, yet conserve your working capital.

For example, if you're planning grain storage facilities, Butler offers a complete line of buildings, giant bins and round bolted tanks. With this selection to choose from, you can solve most any property or capacity problem. Or, if you need feed storage and handling facilities there's a complete line of Butler square tanks and Bulk-O-Matic tanks to choose from.

When you plan to build, contact your nearby Butler storage expert. Take advantage of his experience. He knows the most economical construction practices for your area. He can draw upon Butler experience and facilities to solve special problems. He's ready and capable of handling the entire job from planning to completion, if you desire.

Get full details today. Write for the name of your nearest Butler Builder or Authorized Contractor.

BUTLER

BUTLER MANUFACTURING COMPANY

7402 East 13th Street, Kansas City 26, Missouri

Manufacturers of Equipment for Farming, Oil Transportation, Outdoor Advertising • Metal Buildings • Contract Manufacturing

Factories at Kansas City, Mo. • Minneapolis, Minn. • Galesburg, Ill. Richmond, Calif. • Birmingham, Ala. • Houston, Tex. • Burlington, Ont., Can.

Abbott Laboratories Buys More Land for Its Research Farm

NORTH CHICAGO, ILL.—Abbott Laboratories recently announced the purchase of an additional 80 acres adjacent to its present 220-acre research farm south of Mundelein.

"This acquisition assures us suitable acreage for our existing and future research in the area of animal health and nutrition," George R. Cain, president, said. "This is a growing field of significance to our national welfare in an era of rapidly growing population."

Abbott acquired the research farm with its original 220 acres in 1956, and has since had an extensive building program. Completed this year were two cattle feeder barns, four buildings for nutritional and health studies of livestock and poultry, an implement shed with maintenance and repair shops and additional facilities for grain storage. Another building has been remodeled into a veterinary study center, and a water storage and fire protection system has been installed. Two residences and other farm buildings are also on the original property. The farm can now handle about 300 head of cattle, 6,500 chickens and 300 swine—all under ideal conditions for research purposes, officials said. The crop land is used to grow corn, oats and hay.

The farm is a division of the department of exploratory research under the direction of Dr. Marlin T. Leffler. Henry C. Spruth is head of agricultural farm research, and Charles Less is farm manager.

Abbott Laboratories has produced veterinary products for 40 years and now makes feed additives and veterinary medicinals.

Research work of the farm is tied closely to that of the scientific staff at North Chicago. Laboratory compounds which show promise in the field of animal health and nutrition are sent to the farm for experimental trials. If they show usefulness there, they go to veterinary or agricultural colleges for more exhaustive clinical trials.

Present studies are primarily concerned with growth stimulants, hormones, anti-infectives, tranquilizers and animal feed nutrients.

Ask for it by name

★ More protein
★ More Vitamin-B¹
★ Solvent Extracted
Meal...Pellets
...or Grits

Minnesota
SOLVENT EXTRACTED
LINSEED MEAL

Minnesota Linseed Oil Company
Minneapolis 21, Minnesota

CALIFORNIA HAS MORE CATTLE ON FEED

SAN FRANCISCO — Feedlots in California had 687,000 head of cattle and calves on feed being finished for market Nov. 1, according to the California Crop and Livestock Reporting Service. This was 8% more than Oct. 1, and about one third more than a year ago.

Feedlots in Arizona had 249,000 cattle and calves on feed, 21% more than on Oct. 1 and about 50% more than a year earlier.

Southern California feedlots had 11% more cattle on feed than on Oct. 1, while northern California feedlots showed a 3% increase. Only the central coast and the Sacramento Valley districts had fewer cattle on feed than a month earlier.

Turkey Test Scheduled

MODESTO, CAL.—The third Random Sample Junior Turkey Test will be conducted at the Keyes, Cal., facilities during the early months of 1960, according to a recent announcement by Emery A. Johnson, superintendent, California poultry improvement commission.

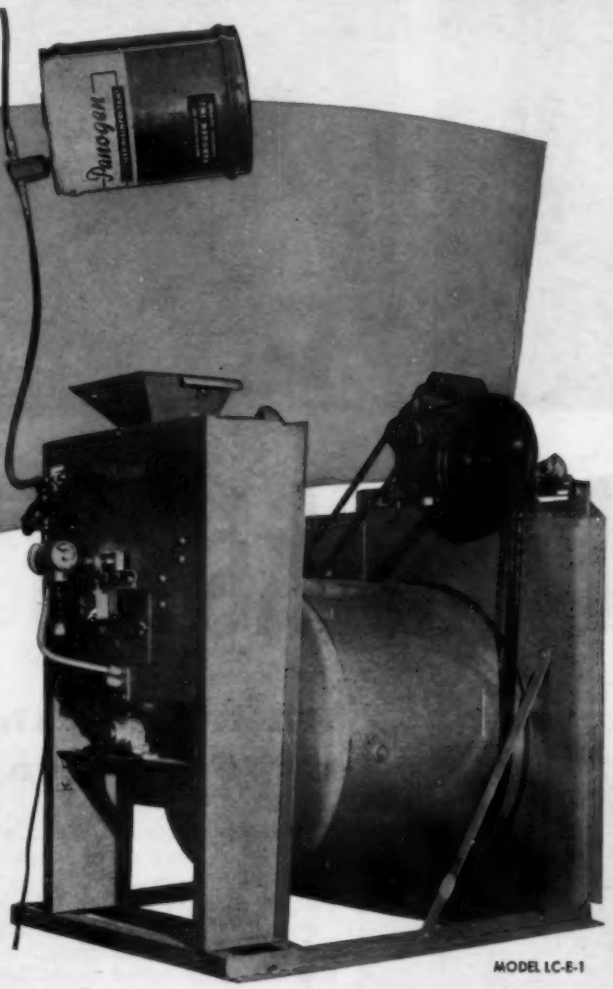
Any turkey breeder or hatcheryman is eligible to enter the test provided that the entry is of the same strain and quality which is offered for sale to the general public.

Applications must be filed by Nov. 23 so that selecting agents may receive instructions and seals in time to make the random selection of eggs. These eggs must arrive at Modesto not later than Dec. 8 for Beltsville-type turkeys, and Dec. 29 for heavy-type turkeys.

VETERINARIANS BUY UNIT

PONCA CITY, OKLA. — A new feed processing service will be offered to local farmers by the owners of a mobile feed processing plant here. Drs. Wayne L. and John Good, veterinarians, purchased the unit from Daffin Manufacturing Co., Lancaster, Pa.

NOW a Panogen seed treater complete . . . ready for use only $424.50*



MODEL LC-E-1

Here is a fully automatic seed treater at low cost . . . but you don't have to sacrifice capacity! The LC Panogen treater is rated at 350 bushels per hour, but users report it handles up to 425 bushels per hour with ease. Gentle tumbling action in the revolving drum assures you of fast, uniform seed coverage. This good initial distribution of material PLUS the exclusive "Vapor Action" of Panogen Liquid Seed disinfectant gives you effective seed treatment that will satisfy your customers. Your employees will like the LC treater too . . . automatic clean-out of treated seed and the dust and fume evacuator mean easier, cleaner seed treating.

The LC Panogen automatic seed treater is equipped for gravity feed direct from the Panogen drum. The exclusive electronic metering device and constant level reservoir set you up for completely modern push-button seed treating. No measuring or mixing . . . just elevate the drum of Panogen 5 to 10 feet above treater, attach hose, and set the dial for accurate dosage. The LC-E-1 treater is fully equipped for bulk handling of seed, but if you prefer, a convenient bagging attachment is available at slight additional cost.

*Price F.O.B. Woodstock, Illinois

Other attachments are available to enable you to do more jobs with your LC treater:

Panogen Dual reservoirs apply two different seed treating chemicals simultaneously without mixing before they reach the seed.
Slurry adapter automatically mixes powder, disinfectant and water to slurry treat beans, corn, peas, etc.
Centrifugal or barrel pumps are available for use when gravity feed is not used.
D-18 Drinox Kit enables simultaneous application of Drinox seed insecticide and Panogen.

Your distributor has more information on the complete line of Panogen Treaters, attachments, and seed treating chemicals. Talk to him soon or send the coupon for additional information on seed treating.

SEND TO: Panogen COMPANY
Division of Morton Chemical Company
110 North Wacker Drive
Chicago 6, Illinois

Name_____
Company_____
Address_____

Please send me information on:
☐ Panogen Seed Treating Equipment
☐ Panogen Liquid Seed Disinfectant

Panogen COMPANY
Division of Morton Chemical Company
110 North Wacker Drive, Chicago 6, Illinois

Minnesota manager reports on SHANZER grain drier

"I believe in staying with a good thing – that's why our second drier was another Shanzer! Season after season, the trouble-free, full-rated performance of these units, even on extremely wet grain, has certainly earned our respect."

–Says, W. H. Lenton, Manager
Farmers Elevator Company, Inc.,
Stewartville, Minnesota.

Get more for your drier dollar, see your Shanzer representative, or write:

SHANZER MANUFACTURING COMPANY
SUtter 1-5200
85 Bluxome Street, San Francisco, California

International Milling Sets All-Time High In Net Profits for Year

MINNEAPOLIS — International Milling Co. of Minneapolis has announced a 66% increase in earnings for the fiscal year ended Aug. 31.

Stockholders attending the firm's annual shareholders' meeting learned that net profits for the year were $7,301,965, highest in International's 67-year history. This was an increase of $2,967,470 over last year's earnings.

Sales and shipments of company products also set new records, according to a letter from Charles Ritz, chairman of the board, and Atherton Bean, president, which prefaced the annual report.

The increase in profits was credited to a sustained program of keeping raw materials, manufacturing, merchandising and distribution costs at a minimum. Also cited was the "unusually favorable millfeed market which was of particular benefit in the U.S."

Stockholders were told that earnings were equal to $11.59 per share of common stock compared with $6.34 a year ago.

Earnings represented approximately 19 times dividend requirements on the company's outstanding $8,900,000 of preferred stock.

The balance sheet showed current assets at $69,677,431, up from $65,680,417 last year. Working capital was increased to $38,059,814 from $35,032,119. For the first time in its history, the firm's total assets topped the $100 million mark with a figure of $104,140,312.

In July, the firm's Supersweet Feeds division completed a new formula feed plant at New Hampton, Iowa. The annual report also announced plans to build another new feed plant at Madison, Wisconsin, during the present fiscal year.

More than 2,000 farmers, dealers and townspeople were on hand at an open house dedicating the New Hampton plant.

The plant was the ninth to be added since the division was founded in 1952. Supersweet developed in another area with the completion of the second stage of a five-phase building program at the modern, 40-acre research farm at Courtland, Minn.

Housewives Win Trip In Bag Sewing Contest

MEMPHIS, TENN. — Two housewives won trips to Hollywood with cotton feed and flour bags at finals of a nationwide sewing contest here recently.

Mrs. J. Melvin Peterson of Selah, Wash., first-place winner in the 1959 Cotton Bag Sewing Contest, and Mrs. G. R. Overall of Caldwell, Kansas, her runner-up, were selected as the nation's top sack seamstresses from a field of contestants representing 49 major U.S. state and regional fairs. In store for them are expense-paid vacations in Los Angeles and Hollywood the week of Nov. 15-21.

Mrs. Peterson became a finalist after winning the bag sewing contest at the Central Washington Fair in Yakima. Mrs. Overall was first-place winner at the Mid-South Fair in Memphis, Tenn.

More than 500 dresses, dolls, crib quilts, aprons, shirts and other pieces of sewing were judged at the Memphis finals. Entries represented women winning the greatest number of first-place ribbons in the contest at participating fairs. All items were made from the cotton sacks used for packaging feed, flour and other commodities.

The seventh annual Cotton Bag Sewing Contest was sponsored by the National Cotton Council and the Textile Bag Manufacturers Assn.

Cattle, Calves on Feed Increase in Two States

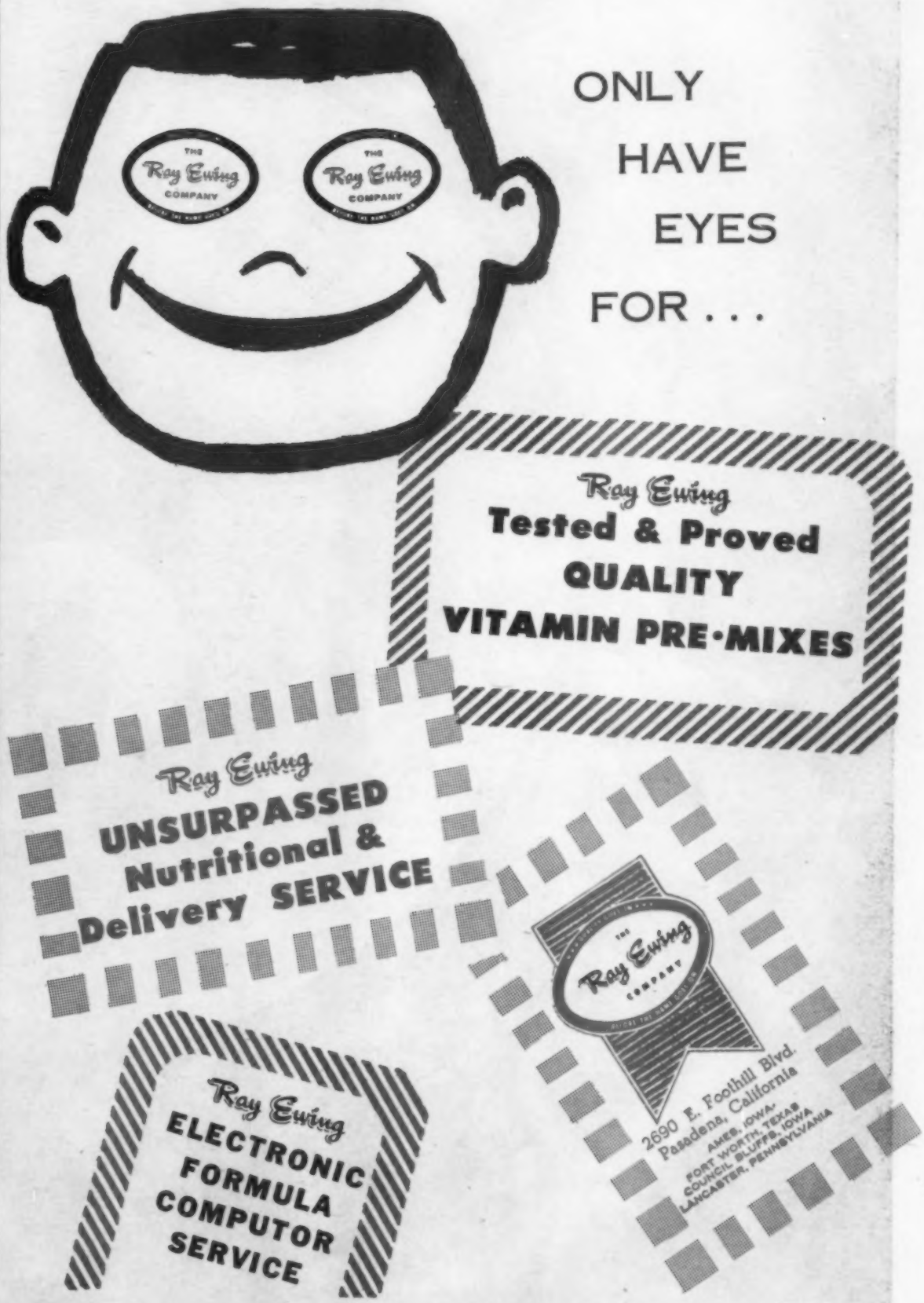
WASHINGTON, D.C.—The number of cattle and calves on feed for market in both California and Arizona for November was up from October.

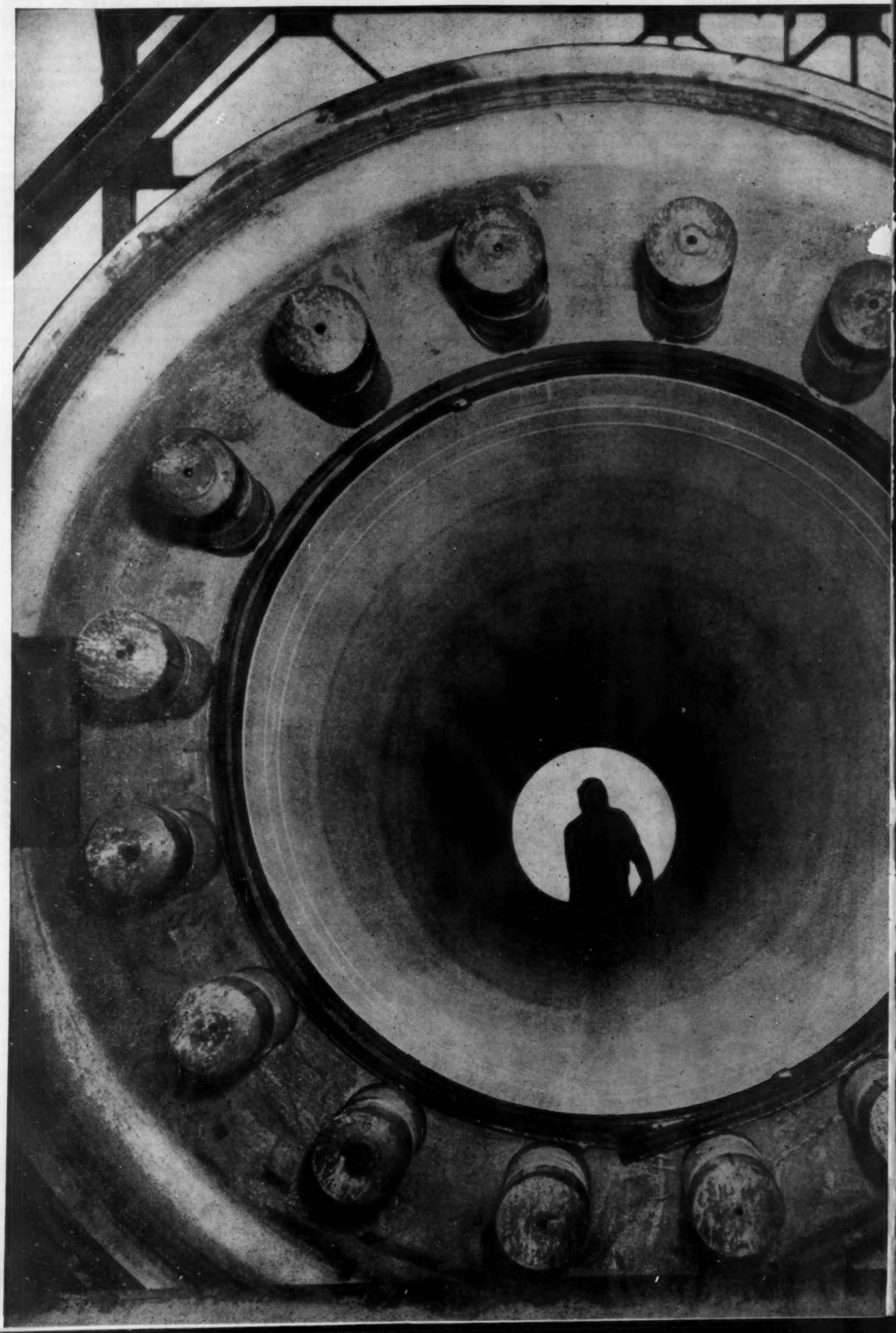
California totaled 687,000 head on Nov. 1, according to the Crop Reporting Board of the U.S. Department of Agriculture. This compares with 636,000 head on feed Oct. 1, an increase of 8%. Cattle and calves placed on feed during October, 1959, totaled 177,000 head. Fed cattle marketed from California in October, 1959, are estimated at 126,000 head.

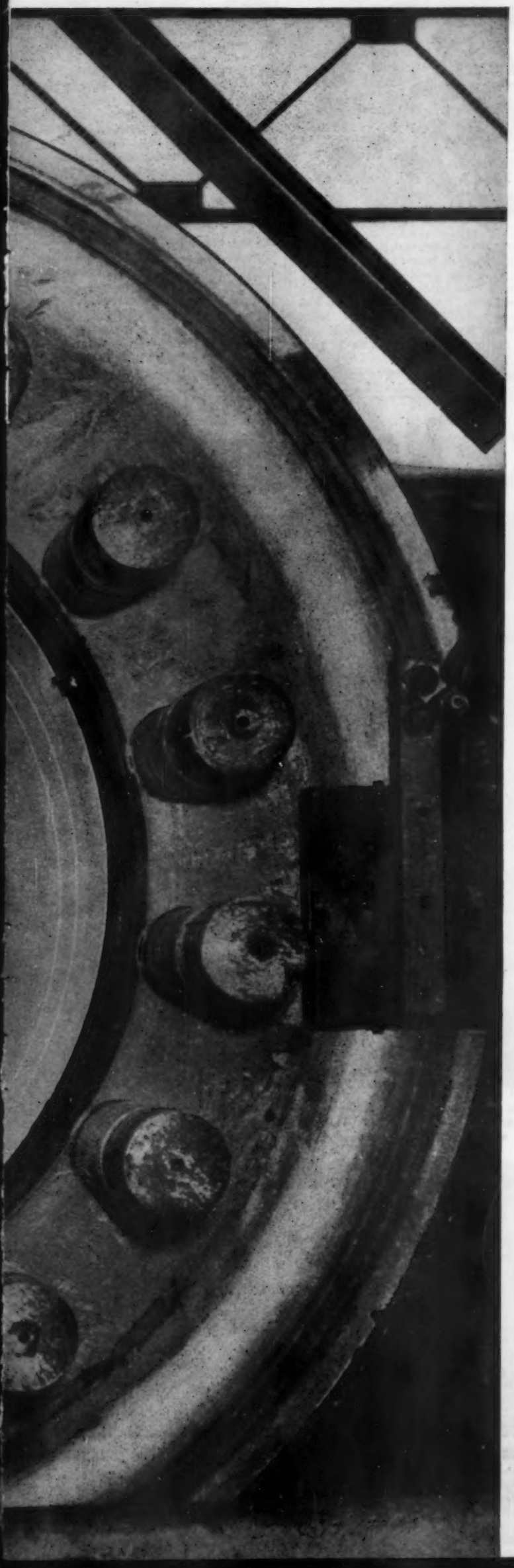
The Nov. 1 inventory number for market in Arizona totaled 249,000 head—21% more than Oct. 1, 1959, number of 205,000 head. Placements of cattle and calves in Arizona feed lots totaled 79,000 head. Fed cattle marketed for Arizona in October are estimated at 35,000 head.

GIVE HIM ADVICE HE'LL APPRECIATE

Remind him to order Morton T-M Salt. See page 27.







Giant autoclaves, especially built for American Cyanamid Company, are silver plated inside, turn out a feed grade urea of the highest purity. In actual operation, both ends are closed up. As the autoclave whirls, carbon dioxide and ammonia gases are injected, then subjected to extremely high temperature and pressure. The result is a urea solution, which after excess ammonia is removed, contains less than 1 per cent impurities.

Cyanamid introduces a new feed grade Urea of highest purity

CYREA*

UREA FEED COMPOUND

From its new, ultra modern plant, Cyanamid now offers you a feed grade urea unexcelled for purity. Its name: CYREA. Its characteristic: *Guaranteed 42% nitrogen.* Cyanamid uses special quality control checks at every stage of production and runs an analysis on every batch before bagging. You are assured of a feed grade urea that is guaranteed 42% nitrogen bag after bag after bag.

Low Biuret — The biuret content of CYREA is extremely low. That means rumen bacteria are provided with maximum amounts of usable nitrogen.

Controlled, micro-prilled particle size — CYREA comes in the form of small, rounded beads. These prills are subjected to several screenings to assure a uniform and perfect particle size for your feeds. Micro-prilling also means CYREA will be evenly distributed in the feed.

Free-flowing, non-bridging — CYREA flows freely when it's made — and when you use it. That's because each prill is coated. They won't cake or bridge. CYREA is packaged in moisture-resistant, polyethylene-lined multiwall bags available to you in 80 lb. size.

Ask your Cyanamid representative to discuss this new product with you . . . and write to the address below for a specially-prepared booklet "Cyrea Urea Feed Compound in Ruminant Nutrition." American Cyanamid Company, Agricultural Division, New York 20, N. Y.

*CYREA is American Cyanamid Company's trademark for its urea feed compound.

CYANAMID
CYREA
UREA FEED COMPOUND

JOE BROOKS

BY AL P. NELSON

Joe Keeps a Scrapbook

About an inch of snow had fallen on that fall afternoon when an automobile turned in near Joe Brooks' office. A tall, grey hatted man in brown storm coat got out of the car, bent his head against the wind and went into the big sales room.

"Hi, Phil," greeted Joe Brooks warmly, recognizing Phil Reddick, a dealer from a small town in the next county. Joe had met Phil at several feed trade conventions and they had had many a pleasant chat.

"Joe," said Phil, stomping the snow from his feet, "you told me at the last convention that if I got over here some day you'd show me your scrapbook on sales promotions. Got time to do it now?"

"Sure, come into the office."

Joe led the way into his roomy office, introduced Phil Reddick to Rusty Hagen, the runty bookkeeper, and motioned the dealer to a chair.

Reddick opened his storm coat, lighted a cigarette and crossed one leg over the other. By this time Joe had taken out a big scrapbook and opened it on the desk near Reddick. He turned the pages, showing Reddick how he saved newspaper ads, direct mail letters and tickets.

"This book has been invaluable to me many times," Joe said. "It saves me thumbing through a stack of ads and letters each time I want to look up something about publicity, advertising or sales promotion. It's all pasted in here, along with the dates when I used the material."

Phil Reddick looked at the pages carefully. "That's an improvement on my ad filing system. I keep my published ads in a yellow manila folder, one for each month. But the ads slip around and I always have to unfold them and fold them again when I sort them out of the folder. Then, too, I haven't kept a file of letters I sent out, or the tickets for promotions. I oughta do that."

"Every dealer should," Joe said. "Believe me, the right kind of filing system saves time and promotes efficiency, Phil. A dealer's time is worth lots of money these days. I figure if I waste half an hour looking for an ad or letter I used months ago, I'm adding heavily to my cost of doing business. So I have this ad book, and it's big enough so that it never gets lost."

Reddick chuckled. "I've got to revamp my ad filing system. I can see that. But, Joe, do you know if any of your sales promotion ads pay in actual sales. Got anything on that?"

A Record of Sales

Joe Brooks nodded. He reached for a card index file on one corner of his desk, thumbed through it, and took out a white card. "I keep as much of a record as I can on each sale we put on, Phil. For example, I have a January clearance sale on some items each year. Most merchants do. The public, and the farmer is included, expects January clearance sales to have bargains, so why not cash in on this buying desire?"

Joe went on. "This card on my 1958 January clearance sale shows that I spent $72 more on advertising and promotion than the previous year for a similar January period, but we were able to do 6% more business. And we did a mighty good volume the year before during the same period."

"But how can you say the increase

FARMERS FRIEND MINERAL BLOCKS

WRITE FOR PRICES

FARMERS FRIEND MINERAL CO.

NAPOLEON, OHIO

WHOLE FISH MEAL

(VioBin Process)

★ ★ ★ ★ ★ ★

All the Fish Meal

PLUS

all the Solubles

Guaranteed to give almost 2 times growth response due to "unidentified growth factors" . . . compared to pressed meal

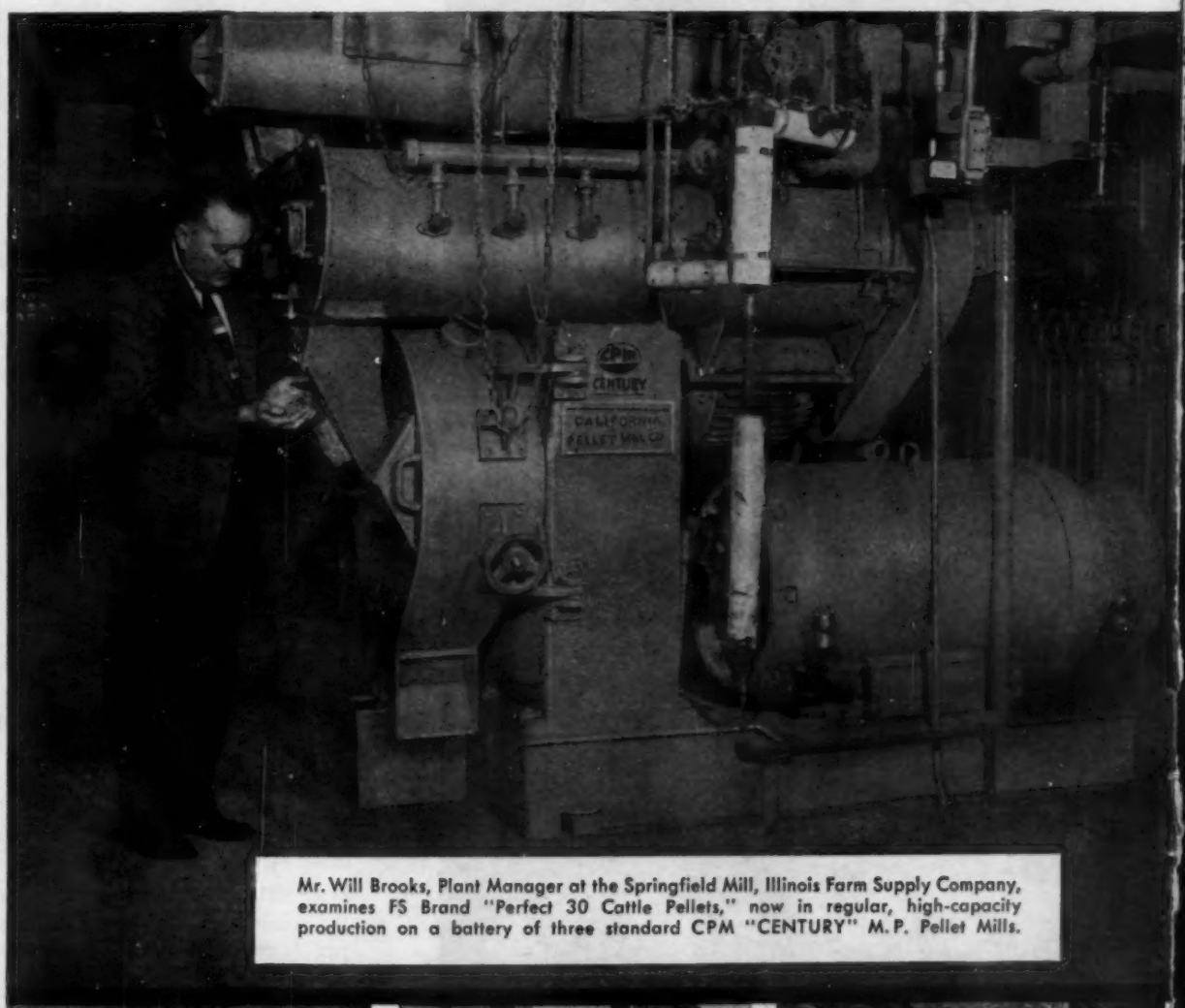
Protein biological value of raw fish

Write for detailed information

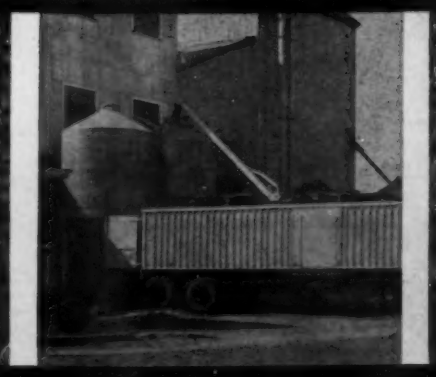
New Bedford Fish Products Co.

New Bedford, Massachusetts

Now You Can



Mr. Will Brooks, Plant Manager at the Springfield Mill, Illinois Farm Supply Company, examines FS Brand "Perfect 30 Cattle Pellets," now in regular, high-capacity production on a battery of three standard CPM "CENTURY" M.P. Pellet Mills.



STRONG, FIRM MOLASSES PELLETS

Hard, uniform CPM molasses pellets resist breakage, disintegration and loss, provide highest feeding economy. Here is a truly high grade feed.

FREE FLOWING IN BULK HANDLING

Molasses pellets offer every advantage as an easy-to-handle feed. They save storage space, reduce handling time and cost.

STACK 'EM UP—PELLETS WON'T STICK!

Stack bags 10 high or more! CPM-made molasses pellets won't stick together, mash or solidify. They stay free-flowing, non-sticky, easy-to-handle.

came from the sale?" asked Reddick. "The increase might have come just from a seasonal rise in business."

"Our January clearance sale ran for 10 days," Joe replied. "This record card shows me that we did more business on those 10 days than we did any other 10 days of the month. To me that means that our ads and promotions paid off. We had a carnival atmosphere in the store, with banners, extra spotlighting, barrel displays of cat and dog items, etc. And we gave doughnuts with each cup of coffee from 9 a.m. until 10:30 a.m. every day. Farmers like to be sociable and visit. My store traffic was high those 10 days of the sale."

"And you keep records like that of each sale, Joe?"

Joe Brooks nodded. "I'm afraid not to," he admitted. "I've got to know if a certain sale pulls well each year and how much. Otherwise, I might have a sale with lots of traffic and no increase in volume. Sales are what count. If I get plenty of traffic for a sale but no increase in business, I know display or store selling was probably at fault. So I work on that."

Phil Reddick whistled. "Joe, the average feed dealer doesn't keep records like that. He doesn't seem to have the time."

"I didn't think I had the time, either, Phil, until I began checking on some of the results of my sales. I used to think it was more important for me to be out helping the men handle customers and load feed than being in here in the office. But I was wrong. A business is only as good as its management. And a manager must manage. He's got to know what he's doing every minute of the business day, and if he is making a profit on what he's doing. If he doesn't know that, then he's not as efficient as he could be."

Business Grows

"I think you're right, Joe. Now, I can see why your business is growing. You've got one big feed mill, a branch at Endeavor and now you've got a mobile feed unit, too. This record keeping discussion is helping me a great deal. I'm going to revamp my system."

"And I've learned a lot from you," Joe said, warmly. "I tried your system of going out myself with the weighing device once a week and I've picked up a lot of business, just as you said. When you weigh farm animals, the feed gains are apparent to the farmer. And the dealer should do it himself, for that's when he can talk to the farmer and often get him secured as a regular customer."

Phil Reddick rose to go. "Joe, you and I have talked over feed retailing problems a lot in the years we've been in business. If I share an idea with you and you give me one then each of us has two ideas instead of one. You and I gain every time."

Joe nodded. "I wish more feed dealers would see it that way. We are really not in competition with each other. We really should be working together in groups to do a better job telling and showing the farmer what a better production and profit job a fully balanced feed program can do for him. If we could stick to a long range promotional plan like that, there would be more volume for all efficient feed men."

Animal Nutrition Meeting Scheduled In North Carolina

RALEIGH, N.C.—A two-day animal nutrition conference has been scheduled for Dec. 3-4 at North Carolina State College here.

A total of nine talks has been slated. Leading off will be "Changing the Fatty in the Patty," by Dr. S. B. Tove of the host college. The other talks on the opening morning will be "Enzymes and Tranquilizers"—for poultry, by Dr. F. R. Craig, and for ruminants, by Dr. M. B. Wise, both of the college

Talks on the afternoon agenda include: "The Value of Pelleted Feeds in Animal Nutrition," by Dr. K. L. Dolge, Wirthmore Feeds, Inc.; "The Role of Zinc in Animal Nutrition," by Dr. J. A. Hoefer, Michigan State University, and "When is a Rumen a Rumen?" by Dr. R. G. Warner of Cornell University.

Kicking off the Dec. 4 session will be "The Role of Antibiotics in Poultry and Livestock Nutrition," by Dr. C. H. Hill, Dr. A. J. Clawson and Dr. W. E. Thomas, all of the college staff. Talks rounding out the sessions will be "A Comparison of Systems for Raising Dairy Calves," by Dr. Warner and "Nutrition and Disease Resistance," by Dr. C. H. Hill.

John T. Caldwell, chancellor, North Carolina State College, will deliver the luncheon address on the opening day, sponsored by the North Carolina Feed Manufacturers Allied Assn.

Produce Perfect Pellets

with Any Molasses Content up to 30%

on the Standard CPM

"CENTURY" M.P.

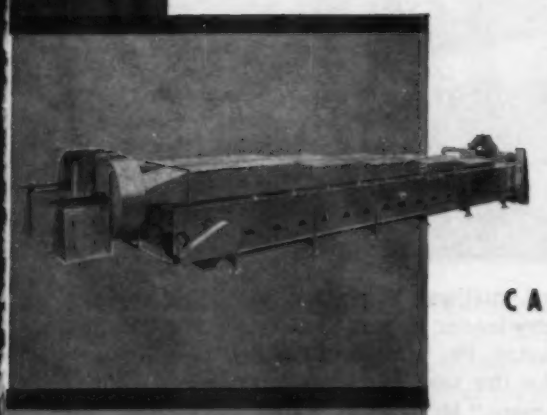
PELLET MILL

No special adapter head or other pellet mill is required to make molasses pellets

If your plans call for pellet feeds with molasses content up to 30%, it will pay you to investigate the California "CENTURY" M.P. (Mixer-Pelleter) high-capacity, high-horsepower Pellet Mill.

This is a multi-purpose CPM standard unit that handles *any* type of pelleting feed mix, whether it contains molasses or not. Extremely versatile, this CPM model does away with the need for a special pellet mill to produce high level molasses feeds only. Nor does it require an adapter head or other cumbersome changeover to switch from pelleting hard type pellets to molasses pellets. Where other machines may require a minimum of 30% molasses to operate properly, the "CENTURY" M.P. produces highest quality pellets at lowest cost per ton *regardless* of molasses content – from 0 to 30%!

Get all the facts on this remarkable mill today. See how you can cut costs, boost profits. Call your CPM representative or write us direct.



EFFICIENT CPM HORIZONTAL COOLER

This CPM self-cleaning horizontal cooler is designed for efficient handling of molasses pellets, regardless of molasses content, without jamming or breaking pellets.

CPM CALIFORNIA PELLET MILLS

CALIFORNIA PELLET MILL COMPANY

1800 Folsom St., San Francisco 3, California
1114 E. Wabash Ave., Crawfordsville, Indiana
101 E. 15th Ave., North Kansas City 16, Missouri

Sales & Service Representatives also in: Aberdeen · Albany · Atlanta · Columbus Davenport · Denver · Fort Worth · Los Angeles · Mexico City · Minneapolis · Nashville Oklahoma City · Omaha · Richmond · Seattle · St. Louis · Toronto · Winnipeg
Also manufactured, sold and serviced by Henry Simon Ltd., Stockport, England

GIVE HIM ADVICE HE'LL APPRECIATE

Remind him to order Morton T-M Salt. See page 27.

WONDERWALL, West Virginia's new multiwall bag made with Kraftsman Clupak paper, is inspected by industry leader Robert S. Gerstell, President; Alpha Portland Cement Company, Easton, Pa. "This isn't the first time we've introduced revolutionary advances for the sake of better operations in our plants . . . and for our ultimate customers," Mr. Gerstell states.

....ALPHA CEMENT changed to multiwalls of West Virginia's Clupak* Paper

When the new tougher Kraftsman Clupak paper was being introduced by West Virginia Pulp and Paper Co., the Alpha Portland Cement Co., Easton, Pa., major producer of Portland and mortar cements, did its own testing.

This was only natural for a leading company in the industry—with eight plants in the East, Midwest and South. Alpha's president, Robert S. Gerstell, foresaw the tremendous possibilities of Kraftsman Clupak paper, especially in terms of customer satisfaction and operating economy. With his guidance, Alpha was the first major cement company fully to realize the potentials of this new West Virginia paper!

Alpha's purchasing agent, James I. Maguire, directed the test program which compared Alpha's then current, natural kraft multiwalls with bags made of the new Kraftsman Clupak, the paper with built-in stretch.

Filling, handling and shipping were all examined. On every count, the new Kraftsman Clupak paper bag proved its superior toughness!

Construction of the natural kraft bags, to carry 94# of Portland cement, was 2/40, 2/50 totalling 180# paper basis weight. The new Kraftsman Clupak bags were 1/50, 1/50, 1/50 totalling 150# paper basis weight. Savings on the paper basis weight reduction of 30# amounted to $2.75 per M bags.

But more important—bag breakage in shipments of both Portland and mortar cement has become negligible! And complaints from supply dealers have been reduced to a minimum.

Today, virtually all multiwalls used by Alpha, from whatever supplier, are made of Kraftsman Clupak paper. And naturally, Alpha is using West Virginia's own bag, called WONDERWALL.

If you pack fertilizer, feed, cement, flour, chemicals or like products, see how you can *cut costs* and satisfy customers *better* with WONDERWALL. Write Multiwall Bag Division, West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, N. Y.

West Virginia Pulp and Paper

**Clupak, Inc.'s trademark for extensible paper manufactured under its authority*

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Professor Criticizes Certain Poultry Management Ideas

COLUMBIA, MO.—Q. B. Kinder, a University of Missouri poultry professor, has taken picks at some of the new poultry management ideas, saying "recommended practices are still the most important for money-making poultry production."

These are some of Prof. Kinder's views on poultry practices—as expressed in a university report:

"Restricted or limited feeding—Don't. There is little advantage to restricted feeding. The practice requires more labor and it's doubtful if it will save any feed. Birds mature later, all right, but feed consumption after housing will be greater. First eggs laid by these birds will be larger than normal for just-housed pullets, but then, birds are older.

"Crowding birds—Depends. Depends on whether you can control ventilation and moisture as to whether less floor space per bird will work. Birds can probably stand 1½ sq. ft. per bird if on slats or wire, and two to 2½ sq. ft. for floor birds. However, feed and water area and nest space should be increased proportionately.

"Single and colony cages—Don't. Caged birds won't produce as well as those kept on floors in Missouri. Controlled tests in California also have favored floor birds the past four years. Colony cages can easily bring more problems with cannibalism, flies, broken and fewer eggs.

"Built-up litter—Do. This practice is definitely good in layer management. Layer production in university tests has improved and mortality has decreased over the past 12 years with birds on built-up litter.

"Window-less housing and 'Stimulighting'—Doubtful. There's not enough evidence on this practice yet. However, it is doubted that possible increased production would pay increased cost of practice. Power failure of artificial lighting is a problem. This practice may have a place one of these days, especially with off season or broiler strain hens.

"Air conditioning and evaporative cooling—Maybe. Don't expect an annual improvement in egg production with this practice. It may be used to shift production. Three-year California tests show improved conditions for caretaker; and where temperature goes over 90 degrees, it'll save birds from heat prostration.

"Debeaking—Do. This is a sound practice. Debeak at time of housing pullets. The practice has double advantage. It may decrease feed wastage as well as reduce mortality.

"Worming—Need not. Chickens should be grown that don't need worming. No worming has been needed on university poultry farm for the past 12 years. If needed it should be done at 18 to 20 weeks. Use a piperazine compound if birds are in production.

"Continuous medication—Don't. Continuous use of antibiotics is not a good practice. In the first place, it's too costly. Secondly, the antibiotic may lose effectiveness if fed continually. Antibiotic use is recommended when feed consumption or egg production drops and symptoms indicate a need for treatment.

"All mash ration or mash-grain—Depends. There's little difference in production and mortality between feeding all-mash ration, compared to a mash and grain ration. The big difference comes in feed cost per dozen eggs. This is almost always in favor of feeding system using unprocessed farm grains in rations."

St. Paul Grain Group Announces Promotion

ST. PAUL, MINN.—Promotion of Thomas Toohey from grain merchandiser to director of marketing for all feed grains and oil seeds of the Farmers Union Grain Terminal Assn., St. Paul, was announced Nov. 12 by M. W. Thatcher, general manager of the farmers' cooperative.

Mr. Toohey will be in charge of all grain sales and merchandising except for wheat and durum. Under a program of consolidating grain sales operations, Mr. Toohey also will supervise the marketing services in Minneapolis, St. Paul, Duluth, Minn., Sioux City, Iowa, and Great Falls, Mont., as well as the track-buying operations in southern Minnesota and South Dakota.

The Farmers Union Grain Terminal Assn. is the largest receiver of grain in the Minneapolis and Duluth grain exchanges, doing about one third of the business, which originates from more than 600 local farmers' cooperative elevators in Minnesota, North Dakota, South Dakota and Montana. These local elevators are members of the Grain Terminal Assn.

Mr. Toohey also will be in charge of the flaxseed marketing which was handled by Fred C. Olson up to the time of his resignation to head up the linseed division for Archer-Daniels-Midland Co., Minneapolis.

Bids for Poultry Lab

CEDARTOWN, GA.—Bids are being accepted by the building committee of the West Georgia Poultry Assn. for construction of a new poultry disease laboratory here.

The building committee showed in a report to the association at a meeting here that a new laboratory will offer better and more modern facilities than the building currently in use.

The new structure will continue operation of the West Avenue laboratory, employing the same personnel.

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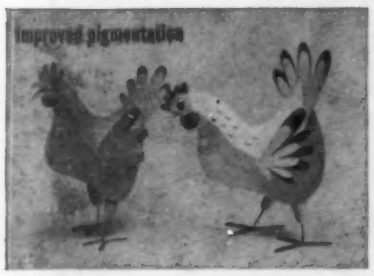

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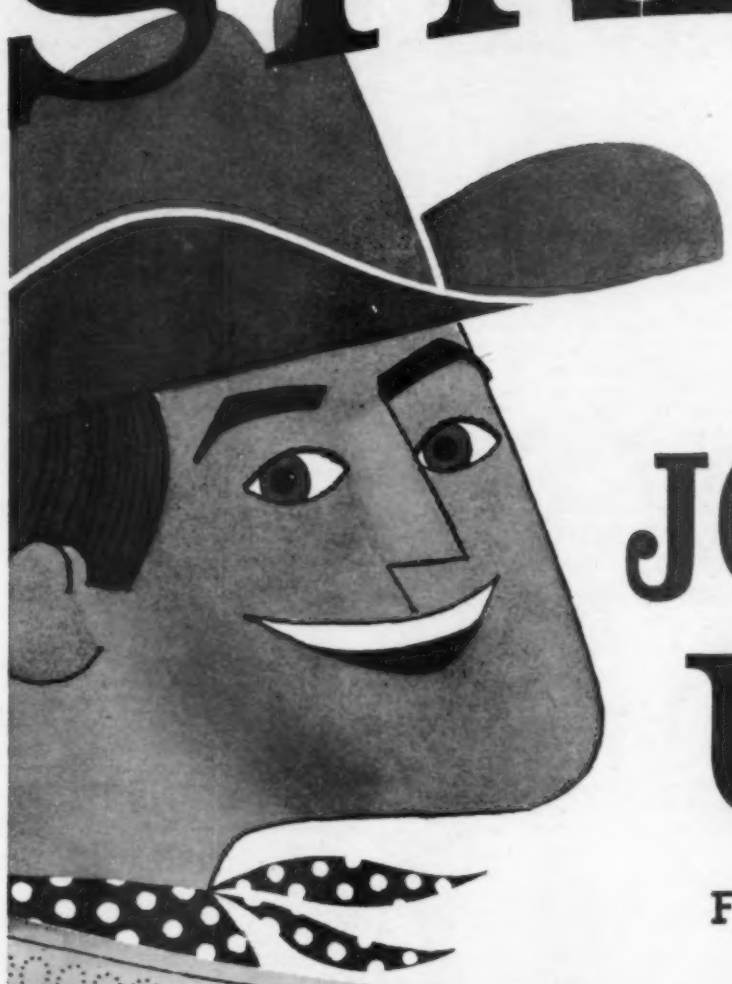

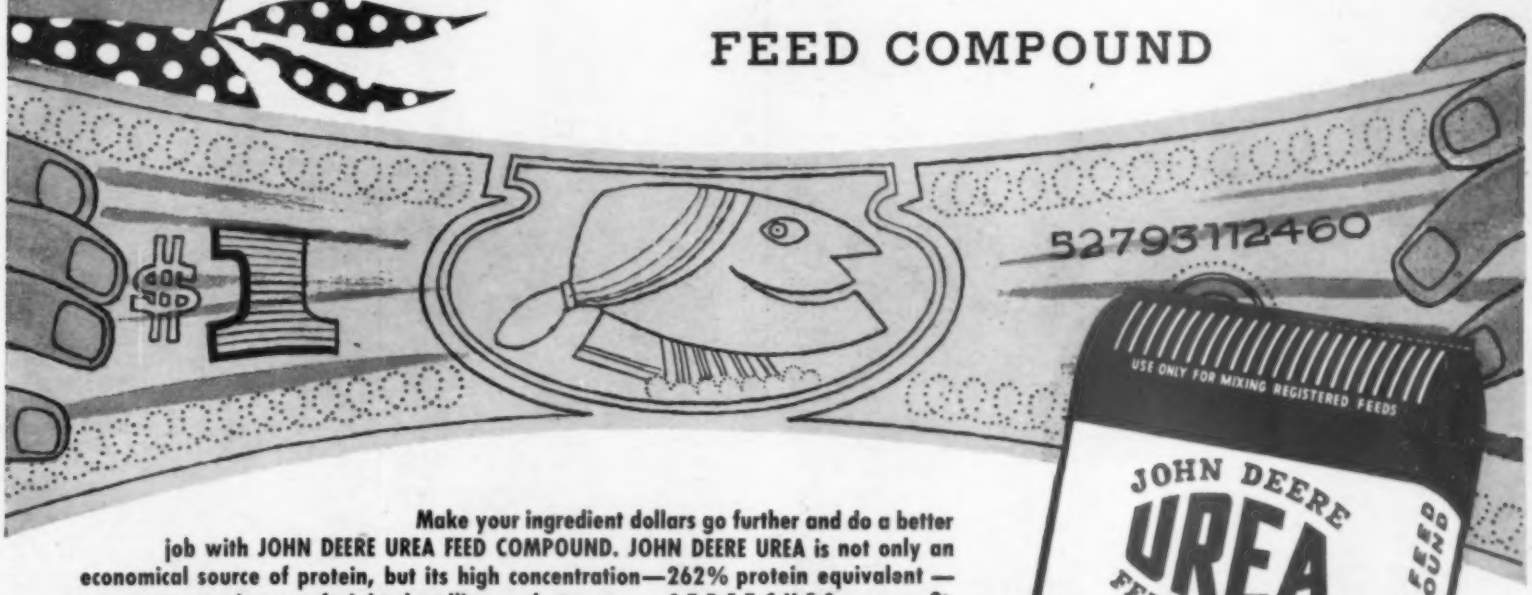

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Feed Manufacturers—Beware of Treated Grain

Feed manufacturers should be aware of the widespread occurrence of and the possible dangers and losses involved in using treated grains in livestock and poultry feeds.

By Dr. Arthur A. Camp
Texas Agricultural Experiment Station

It has been a common practice the past few years to apply certain organic compounds to seeds which are to be used for planting purposes to protect them against certain plant diseases. Some of these seed protectants contain tetramethylthiuram disulfide as the active component.

Even though it is illegal to sell grains which have been treated with such chemicals, there are times when the grains find their way into livestock feeds. When they do, the feed manufacturer may find himself in a lot of trouble. This usually occurs when the requirement for seed is overestimated.

The purposes of this article are: (1) To warn all concerned of the widespread occurrence of and the possible dangers and losses involved in using treated grains in livestock and poultry feeds; (2) to review some of the findings which have been published relative to this subject; (3) to report some of the findings not published; (4) to describe the symptoms observed in livestock and poultry which have been fed grains which have been treated with protectants containing tetramethylthiuram disulfide (TMTD) and (5) outline a very simple and inexpensive test by which the feed manufacturer may be able to determine the presence of TMTD, and thereby avoid possible losses.

Extent of Damage

During the past three years, layer and breeder chicken hens, growing poults and broilers from flocks representing hundreds of thousands of birds affected with TMTD toxicity have been brought to the poultry pathology laboratory on this station. The percent of the field flocks showing visible symptoms of the toxicity has ranged from 10-15% in growing poults, to 25-35% in broilers, to 85-100% in chicken hens.

Of course, there is the matter of decreased growth rate which is difficult to measure on a field basis. However, the author has noted an extreme lack of uniformity in growing bird flocks affected with the toxicity.

Another incident may be cited to further illustrate the widespread occurrence of the condition. During the federation society meetings in Atlantic City, N.J., the writer presented a paper on Arasan toxicity in growing poults, with a description of the symptoms as well as pictures of affected birds. After the session numerous workers representing several sections of the country stated that they had observed similar symptoms in poultry but had been unable to determine the cause. The problem is a serious one, and apparently is prevalent in practically all, if not all, poultry producing areas.

Waibel et al. (1955) reported the effect of Arasan-treated corn on laying hens under field conditions involving approximately 75,000 laying hens, and noted that the fungicide produced symptoms which might be mistaken for mild symptoms of infectious bronchitis or Newcastle disease.

Johnson et al. (1955) reported that Arasan fed to chicks at levels of 37.5 ppm resulted in mild growth depression but no leg or hock disorder. However, when the material was fed to chicks at the 150 ppm level, severe growth depression and severe leg disorder occurred. They stated that the leg disorder might be called perosis or hock disorder.

Effect on Egg Production

The same authors reported that the feeding of a diet containing 100 ppm of Arasan to laying hens caused a marked reduction in rate of lay and an extremely high incidence of soft shelled eggs.

They further reported that high levels of Arasan produced disastrous effects on egg production within a 48-hour period, and also resulted in a high incidence of soft-shelled eggs. These workers reported that early attempts to control the toxicity with riboflavin, pantothenic acid, niacin, choline, vitamin C or E, DPPD, manganese, copper, and zinc had little or no effect.

Some improvement had been noted with addition of folic acid, pyridoxine, vitamin B_{12}, aspartic acid, creatine, iodinated casein, tallow, ademine, glycerine, brewer's yeast and orotic acid.

Ackerson and Mussehl (1955) also reported that Arasan was toxic to chicks. Waibel et al. (1957) reported that Arasan was toxic to chicks at levels of approximately 40 ppm, to goslings at 150 ppm, and that turkeys could tolerate 200 ppm of the nocuous component.

They further reported that the typical symptoms exhibited in all three species were leg deformities and loss of weight, and that chicks showed a distinctive type of leg weakness, which involved sitting on the hocks, crooked and curled toes, enlarged hocks, some slipped tendons and some spraddles.

These workers stated that since seed corn treated with Arasan contains about 630 ppm of TMTD, it is hazardous to feed such corn to poultry even as a small percentage of the ration. Howard (1956) has assembled a comprehensive review of the literature relative to the toxicology of tetramethylthiuram disulfide in chickens.

Search for Cure

In 1957, when Arasan toxicity in poults became so prevalent in the south Texas area, the writer initiated a series of investigations in an effort to try to find some ingredient or combination of ingredients which would counteract the toxicity of TMTD.

Twelve lots of 21 BBB poults per lot were employed in the first test. All tests were six-weeks in duration. The various levels of TMTD were fed to poults beginning at one day of age, except in test 3, in which intermittent feeding was employed. The birds were weighed at weekly intervals. The basal diet employed in all tests is shown in Table 1.

Since this work was started before the work of Waibel et al. (1957) was published, Arasan was added to the poults' diets in the first test at levels of 0, 7½, 15, and 22½ ppm alone, the same levels of Arasan in the presence of all vitamins known to be required by the growing poult added at twice their requirements, and the same levels of Arasan in the presence of 1½ times the poults' requirement of both calcium and phosphorus.

Dr. Arthur A. Camp

THE AUTHOR—Dr. Camp is superintendent of the Texas Agricultural Experiment Station No. 21, a substation at Gonzales. In this article he discusses a number of experiments conducted to show the results of toxicity when treated grains are used in feeds.

No toxic symptoms were observed in the birds to six weeks of age when these low levels were fed. In fact, significant increases in rate of gain were noted in the control basal groups, and highly significant increases in the presence of the higher levels of calcium and phosphorus.

Since no toxic symptoms in the poults were noted when the abovementioned low levels of TMTD were fed, Arasan was fed in the second series of investigations at levels of 0, 10, 20, and 200 ppm. The same high vitamin levels and calcium and phosphorus, as in the first test, were the experimental treatments. Twelve lots of 22 BBW poults per lot were employed in this test.

It was of interest to note that the low levels (10 or 20 ppm) of TMTD failed to stimulate growth rate of these poults, whereas low levels did elicit significant increases in the BBB poults in the previous test. This might indicate that different species or strains of birds may respond differently to TMTD. This has been observed previously in chickens by Waibel et al. (1957).

The only toxic symptom which appeared in this test was a slight bowing of the legs in approximately 15% of the poults receiving 200 ppm TMTD. Furthermore, these symptoms appeared when the drug had been fed for approximately two weeks; they persisted for about 10 days, then disappeared as though the birds had

TABLE 1. Basal Diet

Ingredients	Percent of total Mix
Ground Yellow Corn	35.90
Soybean Meal (50%)	41.60
Alfalfa Leaf Meal	2.50
Poultry By-Products (60%)	5.00
Hydrolyzed Feather Meal (85%)	2.50
Condensed Fish Solubles	2.50
Delactosed Whey	1.00
Omafac	1.00
Mineral Mix*	4.50
Vitamin Mix†	1.00
Poultry Oil	2.50
Total	100.00

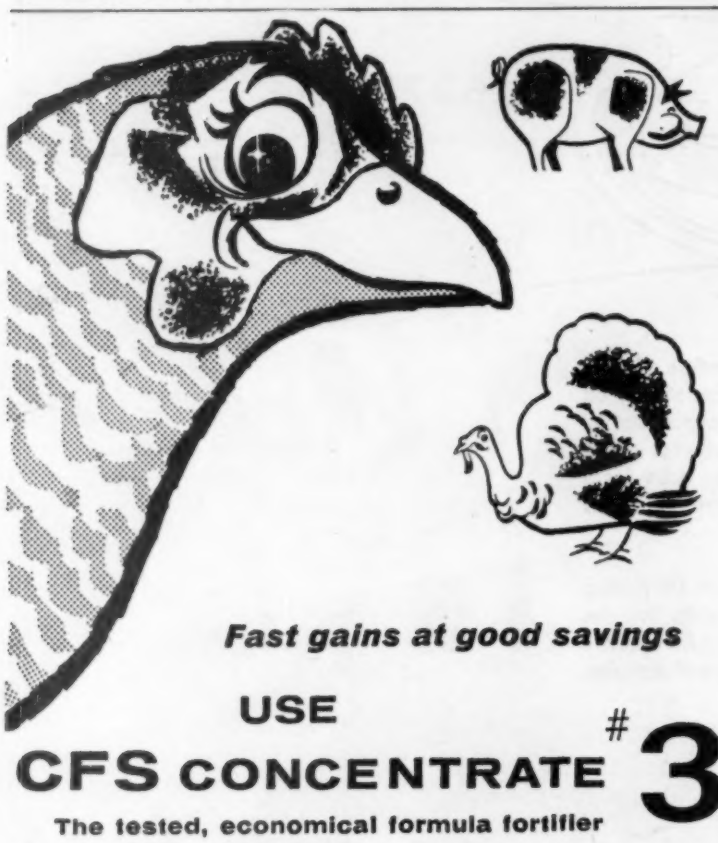
On a calculated basis, the diet contained 30% protein, a C/P ratio of 30:1, calcium 2.01%, and Phosphorus—0.06%

*Mineral Mix

Defluorinated Rock Phosphate (33% Ca and 19% P)	62.37%
Ground Limestone	36.38%
Tech. grade manganese sulfate (70%)	0.62%
Zinc Sulfate (37%)	0.63%

†Vitamin Mix contributed the following to each lb. of finished feed:

Riboflavin	2 mg.
Calcium pantothenate	5 mg.
Niacin	25 mg.
B_{12}	5 mg.
Choline Chloride	600 mg.
Vitamin A	4,000 U.S.P.U.
Vitamin D_3	1,000 I.C.U.
Vitamin E	5 I.U.
Vitamin K	1 mg.
Methionine	227 mg.
Penicillin	2 mg.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developed a tolerance to the toxic material.

In test 3, twelve lots of 17 BBW poults were employed. Arasan was added to the diets at levels of 0, 13, and 270 ppm. In some lots the higher levels were fed continuously beginning when the poults were one day of age, and in other lots the birds were placed on Arasan-free diets to three weeks of age then were fed the 270 ppm level from 3-6 weeks of age. This treatment was employed since it was thought that the birds might be developing a tolerance to the material when being subjected to it continuously from one day of age.

Test Results

The six week results of this test indicated that the 13 ppm level of added Arasan failed to alter significantly rate of gain when fed either in the absence or presence of the higher levels of vitamins, calcium and phosphorus. However, growth rate was improved approximately 7½% when the 13 ppm level was fed in the presence of the higher levels of calcium and phosphorus. This difference approached significance.

Growth rate of the poults was depressed to a highly significant degree when fed an Arasan-free diet to three weeks of age, then 270 ppm Arasan from 3-6 weeks of age in the lots receiving normal or higher levels of vitamins.

However, when the birds receiving the higher levels of calcium and phosphorus were fed TMTD at 270 ppm level from 3-6 weeks, growth rate was significantly increased at six weeks of age.

It was of interest to note that there was no difference in the weight of these birds at three weeks of age when the birds were changed from the Arasan-free diet to the ones containing 270 ppm TMTD. However, the birds weighed approximately 10% more than the control birds after receiving the drug for only one week, and were approximately 11½% heavier at six weeks of age. No toxic symptoms appeared in these birds.

The feeding of 270 ppm continuously from one day of age failed to alter significantly rate of gain when fed either in the presence or absence of the higher levels of vitamins, calcium and phosphorus. However, as in the previous test, the legs of approximately 10% of the birds bowed slightly at about two weeks of age, persisted for about 10 days, then disappeared, leaving no apparent lasting effect on the birds. These data indicate that the birds may develop a certain degree of tolerance to TMTD when fed continuously from one day of age since the intermittent feeding (3-6 weeks of age) caused a greater reduction in rate of gain, especially when the birds were receiving a normal level of vitamins, calcium and phosphorus.

In test 4, twelve lots of 21 BBW poults were employed. Six lots received Arasan-free diets throughout the test period and the remaining six lots received 539 ppm TMTD continuously from one day to six weeks of age. The nutrients added (to study their effect on TMTD toxicity) were 15 mg./lb. calcium pantothenate, 12,000 U.S.P.U./lb., vitamin A, a combination of these two vitamins at these levels, the higher calcium and phosphorus levels alone, as in the previous tests, and the higher level of these minerals, in combination with the two vitamins and levels listed above.

Calcium pantothenate and vitamin A were included in this test at high levels because it had been reported to the writer that pigs fed Arasan-treated corn developed "goose-stepping," which is a typical calcium pantothenate deficiency in growing swine. Vitamin A was added since it was brought to the attention of the writer that growing cattle fed Arasan-treated corn developed typical vitamin A deficiency symptoms.

The high calcium and phosphorus levels were employed because typical TMTD-toxicity symptoms in poults suggest impairment in the utilization of these two minerals. The criteria employed to determine the effect on TMTD toxicity of the various treatments were growth rate, liver storage of vitamin A, and percent bone ash of the poults at six weeks of age.

Growth Rate Reduced

The feeding of 539 ppm TMTD decreased growth rate approximately 30% in the lots receiving either the normal level of vitamins and minerals, the lots receiving 15 mg./lb. calcium pantothenate, or the high mineral levels. Furthermore, this difference was apparent in the weights of the birds from one week of age until the tests were terminated at six weeks.

The birds receiving 539 ppm TMTD in the presence of 12,000 U.S.P.U. of additional vitamin A weighed approximately 10% less than the control birds, and this difference in weight was not apparent until the birds were five weeks of age. This certainly suggests that high levels of added vitamin A may have some effect on preventing TMTD toxicity. As one would expect, approximately 60% of all poults receiving TMTD at this high level developed either a hock disorder, a twisting of the bone between the hock and the foot, a shortening and thickening of the tibia, a very acute perosis, or a combination of two or three of these symptoms.

As previously stated, high levels of added vitamin A tended to prevent or prolong the toxic effects of TMTD. Therefore, it was interesting to note that TMTD failed to affect vitamin A liver storage when this vitamin was fed at normal amounts. However, the vitamin A content of the livers from birds receiving TMTD and high vitamin A levels was significantly lower than those receiving only the high vitamin A levels.

The feeding of 539 ppm TMTD exerted no significant effect on percent bone ash. However, there was a consistent trend for the percent bone ash to be higher in the birds receiving TMTD, especially when fed in the presence of high levels of vitamin A.

In test 5, there were 12 lots of 21 BBW poults each. Six lots were fed Arasan-free diets to which was added: (1) Nothing; (2) 16,000 U.S.P.U./lb. vitamin A; (3) 10 mg./lb. riboflavin; (4) a combination of these two vitamins at the above mentioned levels; (5) high calcium and phosphorus as used in the preceding tests, and (6) high calcium and phosphorus plus the high levels of vitamin A and riboflavin named above.

Riboflavin Added

Riboflavin was included in this test because both poults and chicks with TMTD toxicity sit on their hocks with their toes curled in a way very typical of curled-toe paralysis or riboflavin deficiency.

Vitamin A was added at this level because the 12,000 U.S.P.U./lb. fed in test 4 tended to prevent and/or prolong the toxic effect of the compound in question, and it was thought that a higher level might completely counteract the toxicity.

The remaining six lots of poults received the above-mentioned additions plus 400 ppm TMTD. Growth rate was the only "yardstick" employed to test the effect of the various treatments.

The final results of this test indicated that TMTD fed at the 400 ppm level would decrease growth rate approximately 10% when fed either alone or in the presence of either of the treatments. This difference was not statistically significant. In fact, there was no difference in the weights

(Turn to page 32)

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What's in it for you? Feed men who have broiler business like the way nf-180 protective feeding reduces service calls . . . and the speed with which nf-180 clears up troubles . . . CRD, Hepatitis and nonspecific diseases. They gain extra business because of the customer satisfaction nf-180 builds.

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of the control birds and those receiving either the high levels of riboflavin and vitamin A, or the high calcium and phosphorus levels.

The slight differences in the weights of the birds did not appear until the test had been in progress some four weeks. Also, approximately 15% of the poults receiving TMTD at the 400 ppm level, regardless of the treatment, developed typical hock and leg disorder symptoms at approximately 2½ weeks of age. However, in most cases the symptoms persisted for only about 10 days and then disappeared, indicating as in previous tests that the poults were developing a tolerance to the toxic compound.

As pointed out in the foregoing remarks, broilers fed relatively low levels of TMTD may develop either a hock and/or leg disorder, perosis or spraddles. Some 25-35% of the flock may exhibit these crippling symptoms. Growth rate is markedly reduced. In poults, 10-15% of the flock may exhibit the same symptoms and here again growth rate may be depressed. Laying hens may go completely out of production within 48 hours after being fed feed or grain containing extremely small amounts of TMTD.

TMTD Detection

With these facts in mind one can readily see the possible damages and losses which might be incurred through the use of treated grains. The possibilities of incurring such losses may be reduced if a very simple and inexpensive test will be employed to determine the presence of TMTD in feed and grain. As stated, the test is very simple to perform and will show the presence of TMTD in concentrations as low as 2½ ppm.

The test is as follows: To 10-15 gm. of suspected grain or feed add 25 ml. of chloroform and shake for 3 min. This serves to wash the grain or feed, dissolving the TMTD (if present). Filter this through cotton. To this solution add a few crystals of cupric chloride and shake another 2-3 min. If TMTD is present a characteristic amber-to-brown color will appear in the chloroform as evidence.

In some cases where the suspected grain is already ground and included in feed, the test may also be used. If the feed contains alfalfa or some other green plant color, the resulting chloroform solution after filtering may appear green or yellow green, and subsequently the end resulting color will be darker—a muddy brown in the presence of TMTD or a muddy green to yellow green if there is no TMTD in the sample.

Summary

In summary and conclusion, the effect of various levels of TMTD on broilers, poults and chicken hens have been pointed out. Some 25-35% of a broiler flock may exhibit hock and/or leg disorders, perosis or spraddles when fed diets containing as low as 40-100 ppm TMTD. Growth rate of broilers is also markedly decreased. This condition in broilers may be confused with riboflavin deficiency in certain cases.

Laying hens may drop to zero production within 48 hours after being fed feed or grain containing 40-100 ppm TMTD.

Growing poults can tolerate up to 200 ppm of the toxic material with no apparent lasting effect, especially when fed to the poults continually from one day of age.

Data has been presented indicating that low levels (10-20 ppm) of TMTD actually stimulate growth rate of Broad Breasted Bronze turkey poults, but had no stimulating effect on growth rate of Broad Breasted White poults, indicating a species or strain response to TMTD.

Data has been presented which indicates that poults may develop a tolerance to fairly high levels of TMTD when fed continuously, and that intermittent feeding causes greater damage to the poults than continuous feeding.

Vitamin A included in the diet at a level of 16,000 U.S.P.U./lb. of feed appeared to prevent and/or prolong the toxicity of TMTD.

Calcium and phosphorus included in the diet at approximately 1½ times the poults' requirement appeared to exert some effect in preventing the toxic symptoms of TMTD in the growing poults.

Neither riboflavin nor calcium pantothenate added at high levels appeared to alter TMTD toxicity.

Neither vitamin A liver storage nor percent bone ash appeared to be significantly affected by the feeding of TMTD, except when vitamin A was added at high levels (12,000 U.S.P.U./lb.).

A very simple and inexpensive qualitative test for TMTD is outlined which may be employed by feed manufacturers to protect them from the great losses which might be incurred through the use of treated grains in poultry and livestock feeds.

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Nutrena Appointment

PEORIA, ILL.—Donald I. Mueller, University of Minnesota graduate, has been named to Nutrena Feeds sales staff here, according to Earl J. Raff, regional sales manager. Mr. Mueller will service livestock and poultry production systems and Nutrena animal feeds to farmers in this central Illinois area, Mr. Raff said. Mr. Mueller, a native of Minneapolis, was graduated in 1957 in animal husbandry.

IOWA BUSINESS SOLD

WHITTEMORE, IOWA—Harold Green of Sac City and Harold Poppen of Clare have purchased the feed business only of Elmer A. Maahs, operator of the Whittemore Hatchery & Produce.

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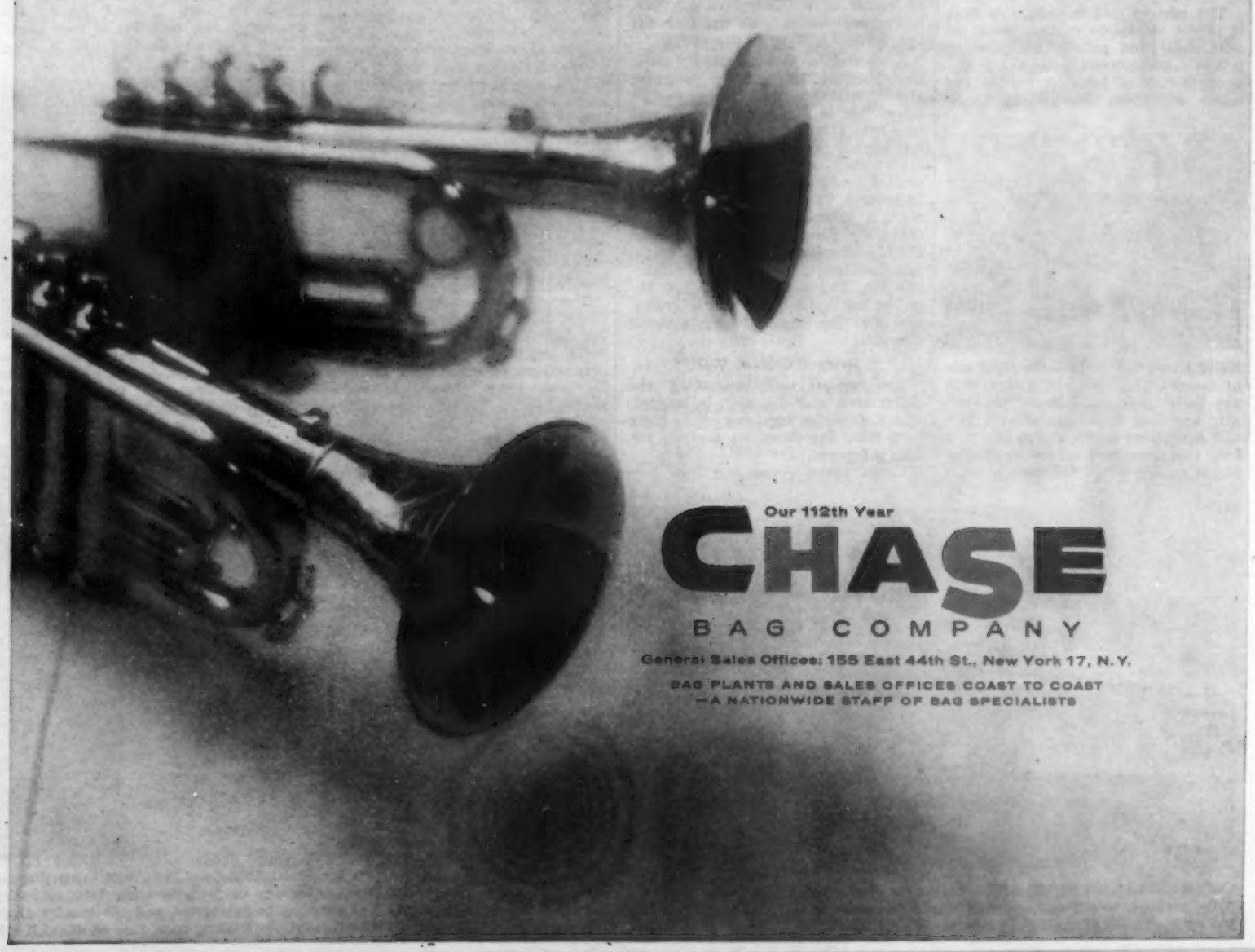

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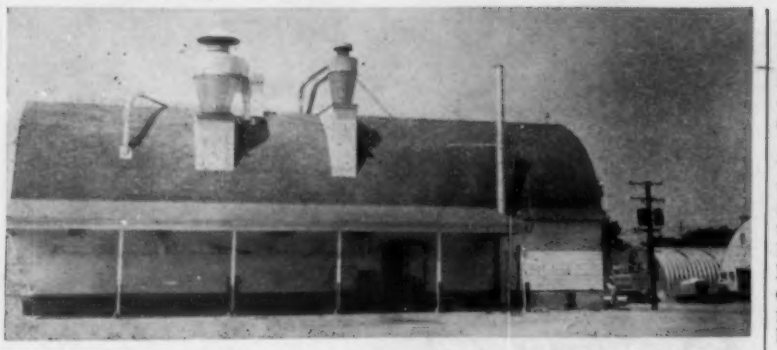


SIDE VIEW—Loadout area as seen from side of new Bakers, Inc., custom mill at Leland, Ill. Note firm's commercial feed plant across street in background at right. New custom mill does all grinding for commercial plant as well as large pelleting jobs. Commercial plant has small pellet mill also.

New Mill in Illinois Incorporates Modern Operational Features

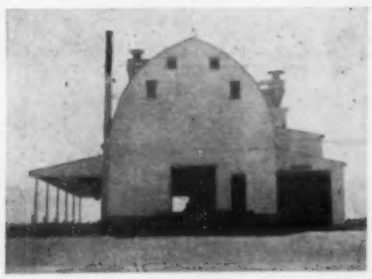
Custom operation includes pelleting, 'Savings & Loan Grain Bank' system.

By Al P. Nelson
Feedstuffs Special Writer

Many interesting operational features characterize the new push button custom mill of Bakers Inc., Leland, Ill., operated by N. Orrin Baker and his brother, James H. Baker. The new plant was officially opened in February, 1959. The plant itself cost about $160,000, but bulk trucks, a fork lift, tote bins and other equipment raised the cost another $40,000.

A separate mill built in 1951 is used to manufacture Baker's Feeds. The firm has 43 registered brands which it makes for five retail stores and many dealers. This mill, and a smaller mineral feed mill, are located across the street from the new custom plant.

The custom mill is unique in that it is set up to do custom work on both meal and pellets, and also to produce commercial pellets for the Baker's line of feeds. A battery of screw conveyors for pellets, meal, cracked corn and rolled oats for custom work loadouts is controlled by the operator at the mixer panel. Panel controls also enable the mill to switch quickly to production of Baker's pellet feeds when custom work is completed. Two Jacobson 3-ton vertical mixers with molasses blenders, handle this varying production "very efficiently," reports N. Orrin Baker.



NEW CUSTOM MILL—On right side of Bakers, Inc., drive-in custom mill are three separate dumps. On left side are four custom loadouts. Mill and equipment cost $160,000 and fork lift, tote bins and other equipment raised total cost to $200,000.

Fifty metal tote bins, each of 1-ton capacity, enable Bakers, Inc., to custom mix meal or pellets in advance for customers, or to manufacture and store formula feeds. This tote bin production is stored three bins high in a 40 by 70-ft. warehouse by means of a Clark fork lift. Mr. Baker says use of bins and fork lift has doubled his warehouse space.

A Fairbanks 15-ton capacity scale is located in the enclosed receiving drive. There are three dumps in this drive. One is for receiving corn and oats into storage or to be processed through the huller or cracker crimper; another takes in ear corn to be shelled, and another receives grain to be ground. The drive is equipped also with a traveling hydraulic hoist—made by Energy Farm Equipment Co., Monticello, Iowa—which facilitates unloading. The Huss & Schlieper Co., Decatur, Ill., furnished the screw conveyors and dump grates, and also the legs and screws inside the mill.

Bridged Cement Wall

The cement wall, separating the dump area and the mill, is bridged, which simplifies servicing of the drive area from the basement portion, Mr. Baker reports.

Grain taken in storage goes into a leg and is transferred to in-the-mill bins by means of a screw conveyor. Another screw takes the grain from the bins to a holding bin where exact amounts are weighed as withdrawn for the hammer mill.

There is a 15-ton overhead bin in the drive for oat hulls mixed in sheep feed. Also, there is an overhead bin for corn cobs. All corn cobs go through a cutter before entering this bin. The overhead bins permit easy loadout of these materials. Custom order loadouts for processed or mixed feeds are on the opposite side of the building as already described.

The new mill has inside plywood bin storage of grains and ingredients at present. Grain storage is 7,000 bu. in seven bins, and eight 10-ton bins hold bulk supplements, soybeans, linseed meal, middlings and other ingredients.

Mr. Baker says that the firm plans to add 36,000 bu. of storage capacity in metal bins outside the mill. The firm uses 1,000-1,500 bu. of corn daily in its operation and has a working agreement with a local elevator to supply corn needed in mill operations.

The 100 h.p. California Century pellet mill has been operated at a rate of 12-14 tons per hour, but Mr. Baker says it appears the best pellets are made at 9-10 tons per hour. The firm charges $3 ton for custom pelleting feeds containing up to 20% hay. High roughage rations run $4@ 5 ton. The charge is $2 ton for commercial pelleting.

A Roskamp Hi Speed rolling and crimping machine and a Roskamp huller and roller have been installed on the first floor. Each has a separate loadout conveyor connected to the custom work drive. Above each Roskamp unit is an 8-ton bin. The Bakers use rolled oats in their pig feeds.

Equipment in Basement

In the basement of the new mill is a 100 h.p. Jacobson hammer mill, with a 30 h.p. fan; a pellet cooler, and a Triumph corn sheller.

Also, the underground basement area holds a 5,000-gal. steel molasses storage tank with the pump in the nearby boiler room. The boiler is a 40 h.p. Nebraska unit, and the heat in this room keeps the molasses lines warm in winter and permits even flow of material.

The firm has Culligan water softener service and a Dearborn water conditioning device, plus Dearborn test equipment for water. Metal pipes under the concrete floor lead to a sump which is emptied automatically. This relieves any water pressure on the floor and helps keep the basement floor dry.

The office area contains the scale house, a Radson grain tester, some fire fighting equipment and an Olivetta printing calculator to figure percentages of ingredients in formulas and grain tickets in various poundages. A modern price board

CUSTOM LOADOUTS—Bakers, Inc., employee stands ready to send custom oats loadouts to east side of building. Holding bins above each oats processing machine have capacity of 8 tons each.

with plastic letters and numerals gives feed and service prices.

The new plant has Square D electrical controls for 52 motors made by one manufacturer, Electro Dynamics. Mr. Baker says that uniformity in motor manufacture will make it easier for the firm to get parts and service. The motors, as well as most of the manufacturing equipment in the plant, were supplied by Fred B. Walter, Streator, Ill., mill engineer.

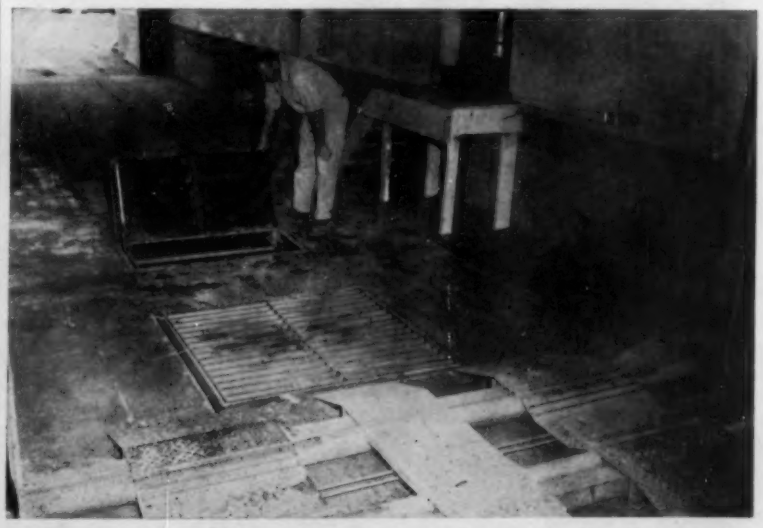
Three-Man Crew

The mill manager, Duane W. Florschuetz, is a graduate of the College of Agriculture, University of Illinois, and a former vocational agriculture teacher. He reports that the new mill has a three-man crew each shift, with an efficiency of 2 tons per man hour. This compares with an efficiency of 1 ton per man hour in the older commercial feed mill across the street.

As bulk pellets are produced in the new mill under the Baker's brand, they are placed in metal 1-ton tote bins and are trucked across the street to the commercial feed plant. Here they are handled with a 2-ton

PRESIDENT—N. Orrin Baker, president, Bakers, Inc., talks on phone in office of new mill. Board at right lists feed and service prices.

COMMERCIAL FEED PLANT—This view shows front of commercial feed plant across street from new custom mill. Operator of fork lift truck has tote bin up high ready for delivery into firm's bulk truck.



DUMPS—"In" side of Bakers, Inc., mill at Leland, Ill., has three dumps: One for receiving corn and oats for storage or for processing through huller or cracker-crimper; another for ear corn to be shelled, and another for grain to be ground. No. 1 dump is behind employee holding open door on dump No. 2.

SUPPLEMENTS—Employee is shown drawing off bulk supplements from in-mill storage bins. Supplements are made in nearby Bakers, Inc., commercial mill.

CUSTOM LOADOUTS — This view shows covered custom loadout area on one side of new mill. The first two are for custom oats loadouts, the next for pellets and the last for meal feed custom orders.

Clark fork lift. If bagging is required, it is done in the commercial plant. The crumblizing equipment also is located in this mill, as is a 50 h.p. California Hi Flo pellet mill which is used for small batches. Peter Hand premixes are used for fortifying Baker's feeds.

The commercial feed plant also has two horizontal 1-ton Marion mixers. All grinding for the commercial feed plant is done at the new custom plant, as the commercial plant is used primarily to manufacture supplement feeds.

The small mineral plant operated by Bakers, Inc., has a 1-ton horizontal Marion mixer, a molasses mixer and a gas hot water heater to heat molasses before it enters the mixer. The firm also uses special valve type bags for feeds and minerals. They are taped on each end and presealed. About 750 tons of mineral feeds are sold annually. This tonnage represents three different types of mineral feeds.

Concerning pellet feeds, Mr. Baker reports that feeders say pellets produce excellent hog gains up to 100 lb. on an economical basis. And, they say, if cheaper proteins are used in pelleting of complete feeds for hogs over this weight, pelleting still works out economically. Feeding tests show faster gains on less feed when it is pelleted, according to comments by feeders.

One sheep feed customer used 40 tons of pellets per week with 25-40% hay in the ration. He starts lambs at 40% hay and then works down to about 25%. Gains made by lambs on pellets in this area have been about .8 lb. per day. "Complete pelleted feed is extremely successful for feeding lambs," Mr. Baker says.

Hay Processing

Processing of hay presents an equipment problem, because its bulk cuts down on capacity. Mr. Baker says his company plans to erect a

PELLET MILL—Operator stands beside California pellet mill in new custom grinding, mixing and pelleting plant at Leland, Ill.

TOTE BINS—N. Orrin Baker, president of Baker's feed manufacturing firm, tells farmer his order is ready in tote bin. Mr. Baker says tote bins have greatly increased the company's warehouse storage. Orders (custom and others) may be made up in advance and stored.

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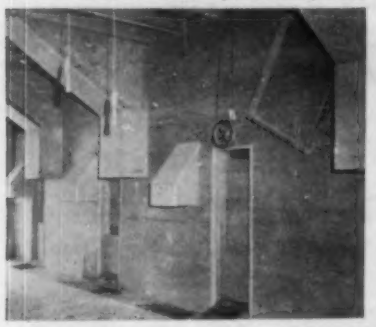


STORAGE BINS — This view of plant shows in-the-mill grain storage bins. Bakers, Inc., plans to add outside bins soon.

large silo and pre-chop the hay into 1 or 1½-in. lengths before grinding and using it in pellet feed. Then the chopped hay can be withdrawn from the silo whenever needed, and this, he says, will speed the actual processing and pelleting operations. He believes that pelleting of hay has "a terrific future."

Mr. Baker is running tests on complete pelleted cattle feed. If a complete pellet ration for cattle works out, he states, his mill—which has a capacity of 200 tons daily—could not handle the potential business that could be secured.

The Baker organization started in business in 1932 in Leland. From 1940 to 1950 the firm established stores in Leland, Sandwich, Newark, Shabbona and Earlville. Each store is owned by the manager. The Baker firm owns five Pamco auger type bulk trucks and one New Leader truck. Bulk delivery of feed was begun in 1949. The bulk price discount is $5 ton.

Mr. Baker reports that his firm built its large new mill with an eye to future development and expansion of business, especially in pelleting, both custom and commercial. The mill was built to a design of quality and efficiency, with maximum, rather than minimum machinery requirements. Mr. Baker says that with quality equipment in the mill there is less danger of breakdowns and shutdowns which could be expensive in lost business and costly repairs.

"The modern custom and pellet mill needs to be equipped to run continuously as demand rises or falls," he says. "This means proper equipment from the start."

Savings and Loan Bank Plan

This progressive feed company also operates a "Savings & Loan Bank Plan" in which the farmer sells the milling company his grain on a savings account or cash, at highest cash market value. If the customer wishes to put his grain in savings, he can get a feeder loan to feed his livestock until he markets them. He can then pay for his feed, or he can collect the interest from feed put out on feeder contracts.

Here's how the Bakers grain savings account works:

● The producer sells Bakers, Inc., his grain at highest cash market price.

● The producer may take his sale of grain in cash, or

● He may deposit his sale on savings account and receive a premium of 1¢ bu. for corn and ½¢ bu. for oats per month up to five months.

● Bakers, Inc., reserves the right to accept grain on savings account only to the amount that can safely be placed on loan.

The firm's feeder loan system operates this way:

● Providing grain is available from the "Saving & Loan Grain Bank" and the producer qualifies for a loan, he can feed his livestock until market time and then pay for his feed.

● The farmer pays as little as 50¢ ton a month carrying charge to the grain bank.

● Bakers, Inc., reserves the right to accept feeder contract loans only to the amount that is available from grain on savings.

● Feeder contract loans become due and payable at time of sale of livestock being fed.

Policies Outlined

Policies outlined by Bakers, Inc., for its "Savings & Loan Grain Bank" include:

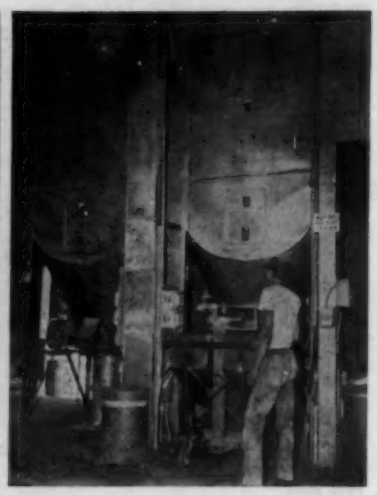
1. All corn must grade No. 2 or better for price quoted.
2. Corn over 15½% moisture will be dried at seller's expense, with price per bushel figured on net weight after drying.
3. Up to 3,000 bu. of corn will be accepted at one time. However, arrangements must be made prior to delivery.
4. Corn purchased will not be sold as corn. All grain will be processed into complete pelleted feeds.
5. All oats must be of good quality and test 36 lb. per bushel.
6. All grain processed into feed will be handled on a non-profit basis.
7. The purchase price on all grain will be based on a deliver-to-mill basis.
8. Carrying charge on feed will be figured on a calendar month basis.
9. Interest on grain purchased starts on date farmer makes sale.
10. Grain will be accepted at mill within 30 days of purchase.

It was explained that operation of the grain bank plan enables Baker customers to finance their operations when needed and brings regular custom work to the Baker plant many months of the year.

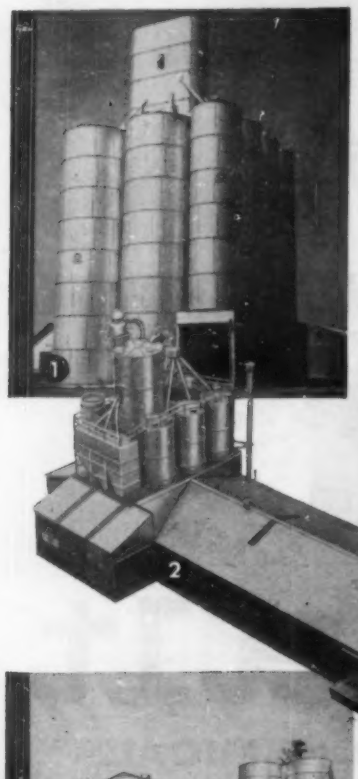
The Baker firm has five field men, one from each store, who visit farmers and help them with feeding and other management problems.

Health problems, Mr. Baker says, are referred to the feeder's veterinarian. "We like to work with the veterinarians in our area," he relates. "We are feed men, not medicine men. There are many occasions when veterinarians send feeders to us to have medication mixed in their feed."

The comprehensive production and service program is enabling Bakers, Inc., to increase its volume each year.



MIXERS — Operator dumps ingredients into one of two 3-ton Jacobson mixers.



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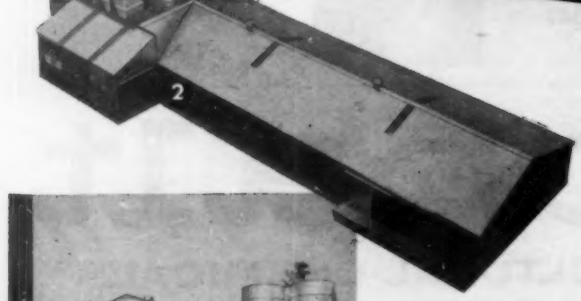

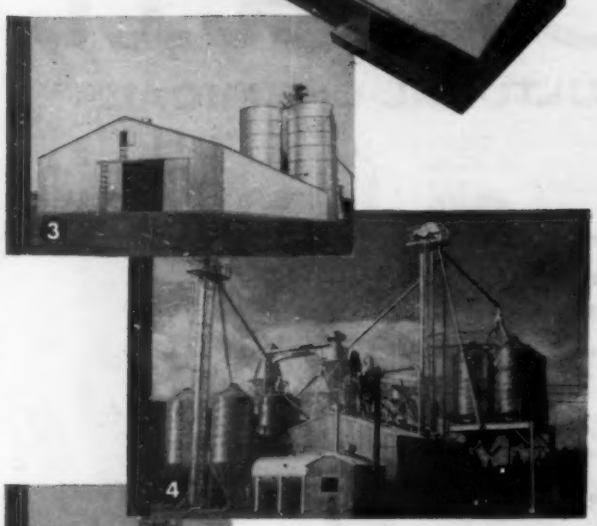

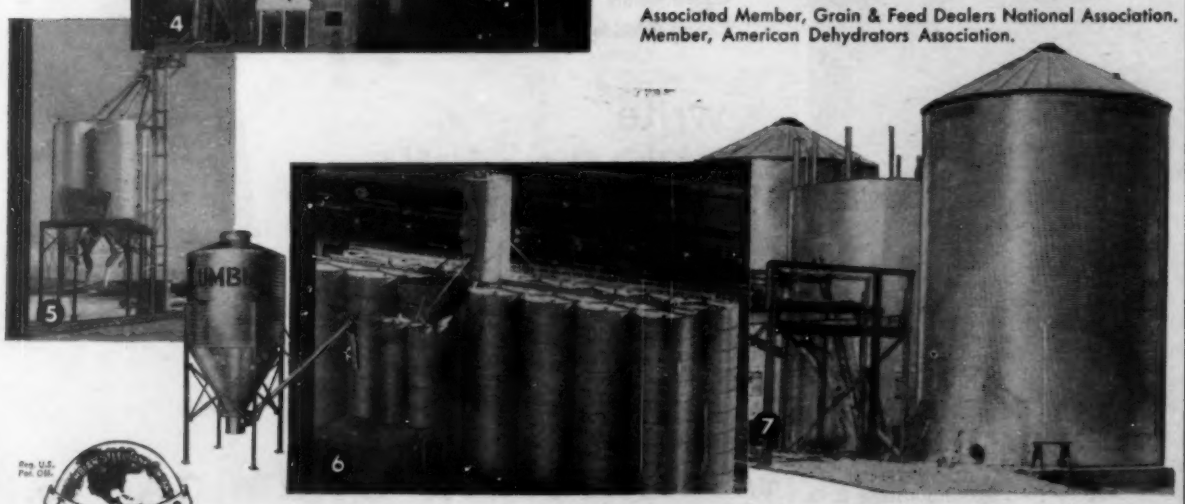

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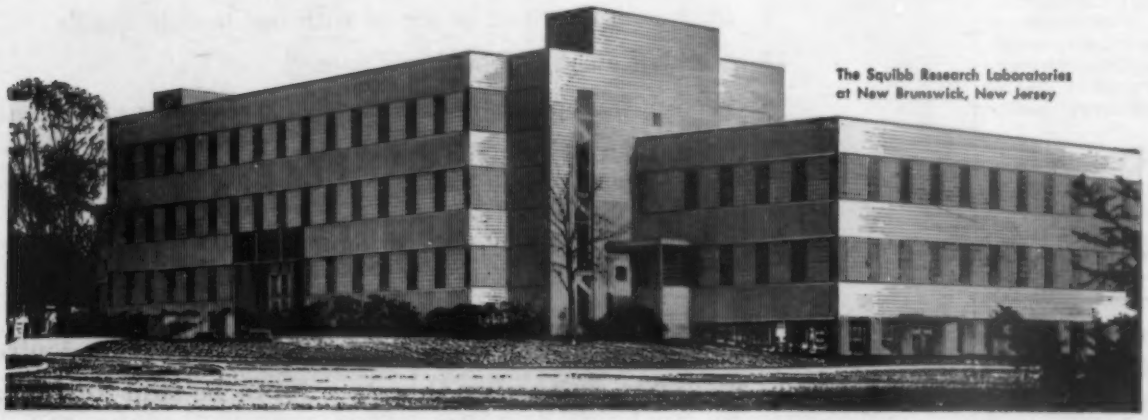

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By Dr. John F. Mahoney
Merck & Co., Inc.

EDITOR'S NOTE: In this article, the author discusses some problems that may crop up in trying to maintain uniform incorporation of microingredients in feed. Dr. John F. Mahoney suggests studies to be made and other action to be taken in evaluation of microingredient mixing performance in a feed mill. The talk was presented at the premixing session of the 1959 Feed Production School. Dr. Mahoney is manager of technical service for the chemical division of Merck & Co., Inc., Rahway, N.J. Complete copyrighted transcript of proceedings may be purchased for $15 from Feed Production School, Inc., 20 W. Ninth St. Building, Kansas City, Mo.

The quantitative and uniform incorporation of microingredients in feed is major objective for all quality-conscious feed manufacturers. This objective is particularly important in the case of drugs since the feed manufacturer is required to guarantee the drug content of each batch of feed.

The mixing conditions sufficient to produce a feed with a uniform content of one of the major components —protein, for example—may not necessarily be adequate to insure a uniform microingredient content, despite the use of premixes. Perhaps 80% of the charge to a blender is proteinaceous material whereas the microingredient premix is more likely to represent only .5-.4% of the charge.

Generally speaking, if one employs microingredients which have been well formulated as supplements, the mixing problems which may be encountered are more likely to be ones which affect all microingredients rather than specific ones. In mixing studies which we have carried out, we have not observed a marked difference in the rate at which various microingredients, added as supplements, achieve uniformity in feed distribution. On the other hand, if the feed manufacturer purchases any microingredients in bulk form, he should be alert to the possibility that some microingredients may cake easily because of low melting point or hygroscopicity, others may spontaneously form small soft balls which are not broken up readily by mixing; certain microingredients are electrostatic and may stick to the mixer, while others may be lost through excessive dustiness. Handling such microingredients may require special treatment.

Reliable information on the ability of a feed mill to mix microingredients is highly desirable. If the mill operation is not satisfactory, nonuniformity in the feed content will not be confined to those microingredients which happen to be regularly analyzed. On the other hand, assurance of satisfactory mixing may enable genuine economies to be achieved in microingredient quality control.

Not Standardized Procedure

The evaluation of microingredient mixing performance in a feed mill is not a standardized procedure but must be accommodiated to the design and operation of the individual feed mill. Basically, the study is built around establishing the distribution pattern of a single microingredient, selecting for this purpose one which is stable and one for which a convenient, reliable and precise method of analysis is available.

In a simple study, perhaps two dozen samples are taken of the feed as it is being bagged off. About half the samples are taken from the first several and last several bags in the run, the balance of the samples being taken at approximately even intervals during bagging. Analysis of these samples, plus knowledge of the exact quantity of microingredient charged, will give the following information: Per cent total recovery in feed of microingredient charged; portion of the run which must be set off, and coefficient of variation of the microingredient in the feed produced excluding the set-offs. The following are considered to represent good mixing of a microingredient: 96% minimum recovery of microingredient; set-off no more than 500 lb. in a batch type operation, and coefficient of variation in the feed not more than 5%.

In the event that the feed fails to meet these requirements, more elaborate studies may be required to pin down the exact difficulty. The type of study described can be used equally well to analyze a premix production operation.

Some of the types of corrective measures which such a study may suggest include use of a more dilute premix, longer mixing period, more intense mixing, shorter conveying lines, better clean-out practices, re-

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1. *A discount* on every ton of feed, when the mill provides a return-bag program.
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4. *Non-separation* of formula-ingredients.
5. *Your prices* are competitive with returnable burlap bags.
6. *Service*...you can give small customers as good delivery service as large customers (and on the same route).
7. *Bulk customers* can be served with bag-to-bulk trucks.
8. *Quantities* can be bought *as needed.*
9. Feed in burlap bags is *sanitary and free from contamination.*
10. *Accurate weights* are assured in a burlap bag.
11. *Fifty-pound* as well as 100-lb. bags can be offered.
12. Farmers have many uses for empty bags...only burlap serves them so well!

Quite a few selling-points, don't you agree? Next time you're selling a new customer, remember there's a lot to be said for burlap bags!

Just ask your own customers—they'll tell you that burlap

Is strong — takes dragging, dropping, man-handling — any tough job on the farm.

Laughs at sudden showers — wetness or dampness can't weaken it.

Saves money — extra value from re-sale and re-use.

Gives good ventilation — keeps farm supplies and products fresh.

Saves storage space — stacks to any height without slipping.

Has 1000 uses — always in demand on the farm (popular with farm wives, too!)

duced air flow to dust collector and modification in set-off practices.

In the consideration given thus far to microingredient distribution in feed, the problem of stability has been avoided by basing the study on the behavior of a stable microingredient. Not all microingredients are stable, of course, and losses through decomposition must also be considered in producing a feed with a definite microingredient content.

The chemical stability problems which are encountered with microingredients in feed are largely a matter of whether the microingredient is sensitive to such environmental conditions as moisture, pH, oxidizing and reducing agents and mineral catalysts. Only rarely does one encounter specific incompatibility between microingredients.

Certain microingredients appear to be entirely stable in premixes, in mash and in pellets under all normal conditions of use. These include riboflavin, niacin, choline chloride, streptomycin, arsanilic acid, 3-nitro-4-hydroxyphenylarsonic acid, methionine, stilbestrol, sulfaquinoxaline, vitamin E acetate, nicarbazin, glycarbylamide and, of course, the various mineral salts.

Certain other microingredients are sensitive to environmental conditions in feed. These include vitamin A, vitamin D, menadione, procaine penicillin, calcium pantothenate, vitamin B_{12} and menadione sodium bisulfite. The stability of such ingredients cannot be simply described for several reasons:

1. There are no industry standards for microingredients, and products sold under the same general name may vary markedly in stability;
2. Feeds will vary in destructive effects on microingredients, and
3. The pelleting of feed is not a standardized operation.

For most of these labile microingredients stabilized forms are commercially available. While the microingredient or feed supplement manufacturer does not ordinarily guarantee the stability in feed, he is usually in a position to provide extensive data on the stability of his particular product in a variety of feeds. In most cases, it should be possible for the feed manufacturer to extract from this information stability studies corresponding closely with his proposed usage.

If the feed manufacturer is faced with a stability problem with a particular microingredient, several courses of action are available:

1. Addition of an excess quantity or overage of the microingredient;
2. Use of a stabilized form of the microingredient, and
3. Revision in feed production schedules to minimize time elapsed between production and consumption.

FEED FIRM CHANGES HANDS

ELVERTA, CAL. — The Elverta Feed Store in Elverta has been sold by George and Lily Schroger to George M. Teffry.

Dr. Jaquette Joins Delaware Poultry Labs

MILLSBORO, DEL.—Dr. Daniel S. Jaquette has been appointed poultry pathologist and diagnostician for Delaware Poultry Laboratories, Inc., according to a recent announcement by Dr. Hiram N. Lasher, vice president and director of laboratories.

Dr. D. S. Jaquette

Dr. Jaquette will work in the department headed by Dr. A. S. Cosgrove, who is in charge of diagnostic services at the Millsboro laboratory.

Delaware Poultry Laboratories, a subsidiary of Sterling Drug Inc., is a basic producer of virus vaccines and antibiotic preparations for the poultry industry.

Dr. Jaquette has served as a research veterinarian for the U.S. Department of Agriculture, as a poultry pathologist for the Delaware State Board of Agriculture and, most recently, as director of the Dade City Diagnostic Laboratory of the Florida Livestock Board.

Arkansas Hatchery Adds Two to Staff

SEARCY, ARK.—Jack G. Mullen and Lloyd O. Hendrix have been named to the staff of Erving's Hatcheries of Searcy, Ralph Nelson, president, has announced.

Mr. Mullen, a graduate of the University of Arkansas, has become production manager of the Searcy hatchery and will have direct supervision of Erving's pullet program.

Mr. Hendrix, also a graduate of the University of Arkansas, has been appointed a field representative to serve poultry growers in the Arkansas territory covered by the firm. He will assist customers with management problems and will aid sale and distribution of H&N leghorns.

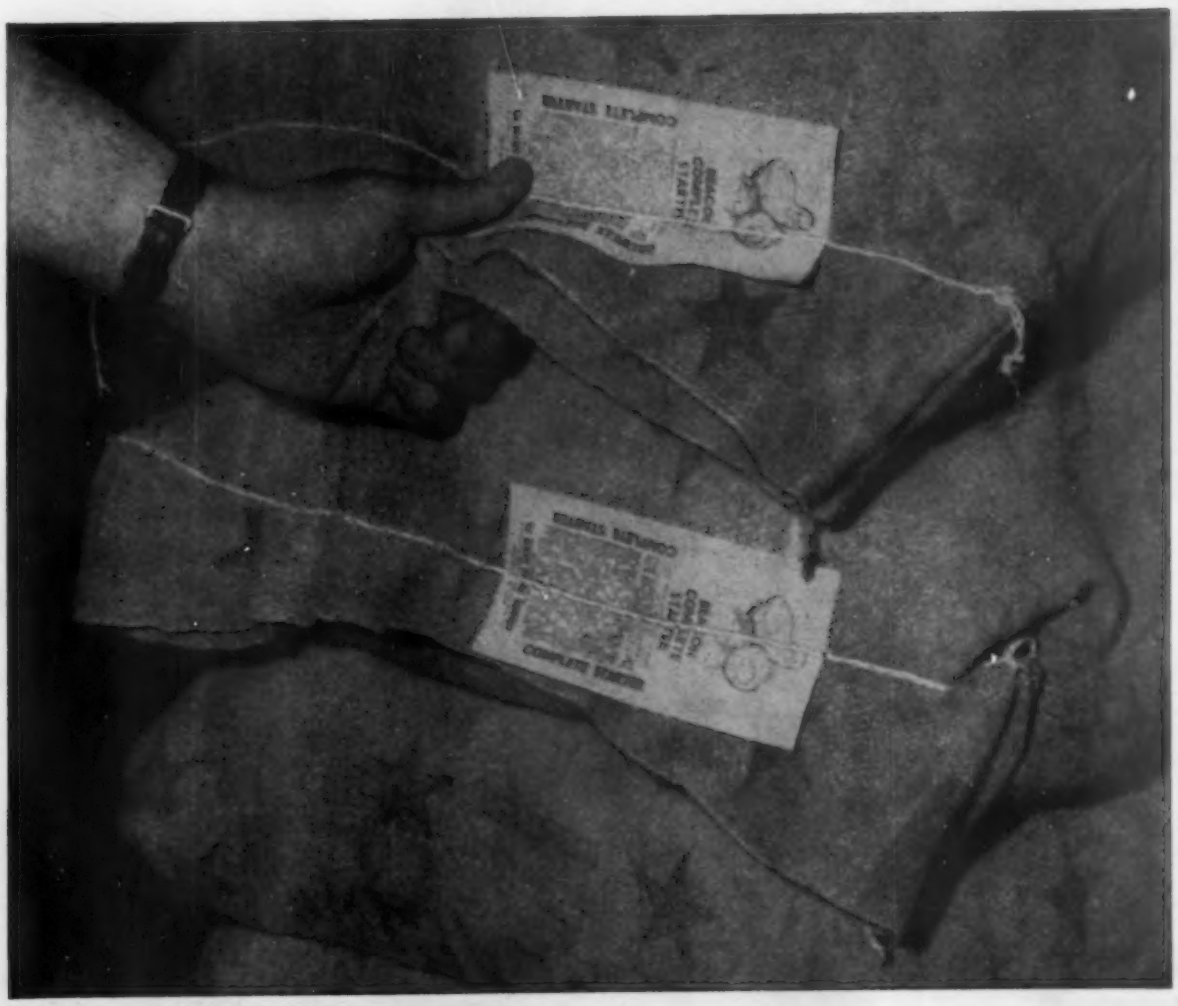
Erving's has raised and sold some 750,000 16 and 20-week-old H&N leghorn pullets this year. The firm is formulating plans for the production of 1,000,000 started pullets in 1960.

Grain Loading Facility

ATCHISON, KANSAS — Grain Merchants, Inc., Topeka, Kansas, has filed application for a permit to construct a barge loading facility for grain here. The request, filed with the U.S. Corps of Engineers, states the facility would be erected six-tenths of a mile north of the highway bridge across the Missouri River.

The plans call for installing a conveyor system along a rock dike which would extend at a southeasterly angle into the river. The facility would be built on the Kansas side of the river.

what serves best!



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CHAIRMAN OF THE BOARD

October 23, 1959

Mr. Charles L. Davidson, Sr.
President
Stone Mountain Grit Company, Inc.
Lithonia, Georgia

Dear Charles:

We wouldn't think of starting a lot of broilers without instructing our growers to make Stonemo Granite Grit a part of their feeding program.

Our reason is purely selfish for Stonemo helps us reduce broiler production costs many ways. We have accumulated ample evidence over the years that Stonemo does help our birds grind out more weight per pound of feed used, and good feed conversion is what we're looking for.

We have no health or poor growth problem due to gizzard clogging from intake of feathers, litter or fiber. Feeding your grit also reduces considerably the feather pulling habit of broilers. With Stonemo Granite Grit we have fewer barebacks and downgrades coming into our processing plant.

Frankly, we keep Stonemo on our payroll year after year because it pays us to do so.

Sincerely yours,

Jesse Jewell

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The grit with the "EXTRA GRINDING SURFACES"

we have fewer barebacks and downgrades"

says

Jesse D. Jewell

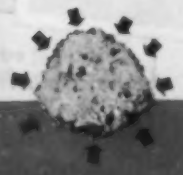
Board Chairman of the world's largest integrated broiler operation.

If feather pulling and barebacks are costing you money at marketing time, it will pay you to read about Jesse Jewell's experience with Stonemo.

Stonemo Granite Grit – Research Proved and Industry Approved – should be on your payroll, too!

Jesse D. Jewell, above, inspects healthy gizzards, free from feathers and litter, so necessary for a good digestive system.

Section of an eviscerating line in the Jesse Jewell processing plant that handles 6,000 broilers an hour.



Grower Stonemo Granite Grit Magnified 6 Times

STONE MOUNTAIN GRIT COMPANY, INC., LITHONIA, GEORGIA

HAY 'CUBE'—John Strait, University of Minnesota agricultural economist, compares a 12-inch hay "cube" with a conventional sized bale. The university used an experimental bale in making the cubes.

Minnesota Tests Small Hay 'Cubes'

ST. PAUL—Twelve-inch hay "cubes" may replace conventional hay bales on many farms in the future, according to University of Minnesota farm engineers. The small, cubic bales would be easier to handle mechanically, easier to dry artificially and could help save hay quality.

John Strait and other engineers tested small bales at the Rosemount Experiment Station last summer. The 10-15 lb. cubes should be easy to move by conveyor from baler to trailing wagon, and from wagon to barn mow.

Drying the small bale is easier because hay in small bale form has twice as much exposed area per pound as hay in conventional bales, which are about 32 in. long, 18 in. wide and 12 in. thick. Also, nearly nine tenths of the hay in a small bale is within 3 in. of the surface, compared to about two thirds for conventional bales.

As a result, it's easier to reach all the hay in a small bale with forced air. Mr. Strait says small bales should be mow-dried almost as easily as the same amount of hay in chopped form.

Conventional bales, to be dried artificially, must be stacked in a certain pattern and should be in a tightly enclosed area. Neither the arranging nor the enclosing is necessary with small bales—they can be dropped and left where they fall in the mow. An ordinary duct-type drying system is all that's needed, and they could be dried with either heated or unheated air, says the engineer.

Mr. Strait says small bales are being studied as part of a complete haying system, involving cutting, conditioning, raking, baling, storage and drying. Conditioning speeds the field drying process, which lessens risk of quality loss due to bad weather. Then, since the bales can be dried artificially, they can be put up when the hay has 30-35% moisture. At such a moisture content, the leaves are tough and won't shatter, he says.

Phosphorus May Aid Winter Growth

STILLWATER, OKLA.—Supplemental feeding of phosphorus to range cattle will increase growth and weight gains on most native grass pastures during winter months, Oklahoma State University agricultural experiment station research indicates.

Studies show the phosphorus requirement of the rumen bacteria may be higher than that required by the host animal.

A phosphorus level of 0.2% is considered ample for proper bone development, normal blood level and effective utilization of fibrous feeds, according to the experiment station. Native grass pastures during winter months or dry periods may be as low as 0.4%.

Supplemental salt-mineral mixes composed of two parts salt to one part steamed bone meal, when fed free choice, will assure ample intake in most areas of the state, scientists said. Adding 15% cottonseed meal to the salt-mineral mix will give increased consumption, the station added.

"Protein supplements, when fed in sufficient amounts, may be high enough in phosphorus content that no other mineral supplement is necessary," the report said. "When fattening cattle were full-fed ground milo with soybean meal and sorghum silage, no advantage was shown from adding additional phosphorus or trace minerals."

Cattle Feeding Firm Now Incorporated

FRESNO, CAL.—The Fresno Cattle Feeding Co. has been incorporated at Fresno with stock valued at $200,000. Principals in the feeding firm include William R. Jenkins and Kenneth J. Fryer.

a helping hand*

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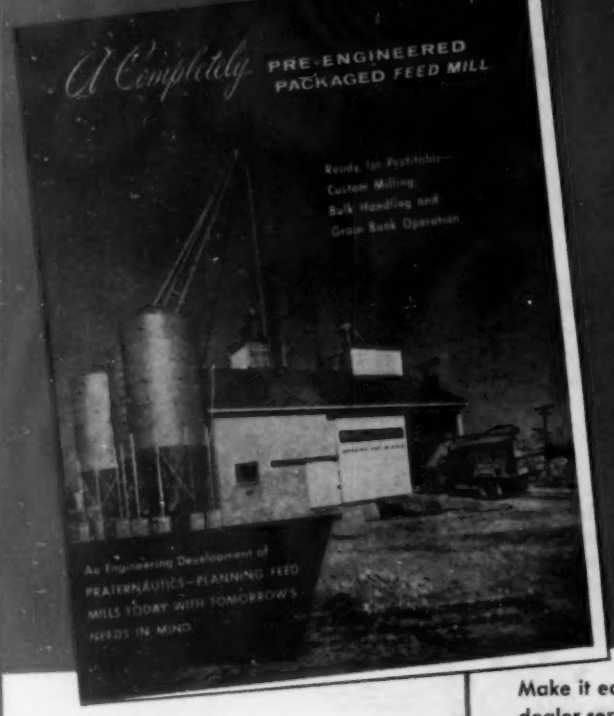
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Percent of Vitamin A remaining after 3 months	98.6	97.8	95.4	98.6	95.6	95.4

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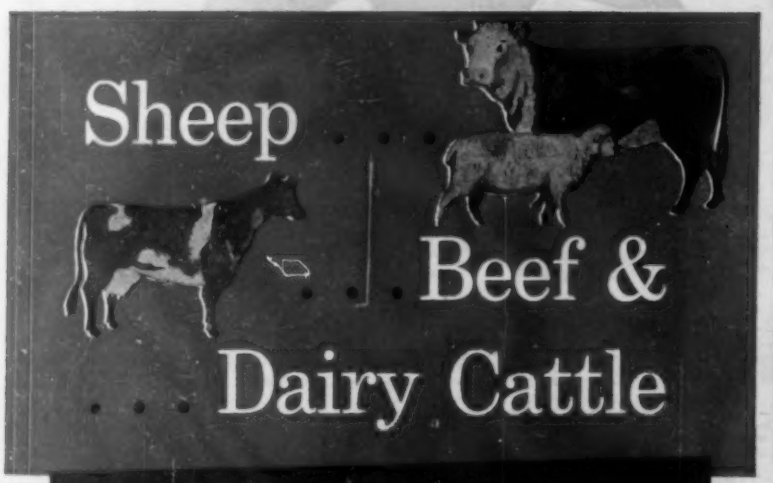

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Ferrell Announces Executive Changes

SAGINAW, MICH.—A. T. Ferrell and Co. of Saginaw has announced executive changes which involve five persons on its staff.

Ronald Banton

Ronald Banton, vice president and general sales manager of the firm, is retiring after almost 21 years, according to Elden L. Kaylor, company president. Mr. Banton will continue to serve on special assignment and as company consultant, said Mr. Kaylor.

Other company executive changes announced by Mr. Kaylor include the election of Robert Fry as vice president and Warren Light as secretary. Mr. Fry will retain the position of plant manager. Mr. Light continues to head the purchasing department.

Responsibilities of the sales department will be shared by James Henderson and Richard Carr, sales managers. Mr. Henderson retains his position as export sales manager.

TWO FEED FIRMS OPEN

ORLAND, CAL.—The Orland Feed & Seed Store and the Chicago Feed & Seed Co. have been opened in Orland.

Gets Scholarship

LEXINGTON, KY. — Dan Turley, Sacramento, Ky., has been awarded the $900, three-year Southern States Cooperative scholarship in agriculture, it was announced recently. The University of Kentucky sophomore was awarded the College of Agriculture scholarship on the basis of academic achievement. He is majoring in animal nutrition.

NEW ELEVATOR

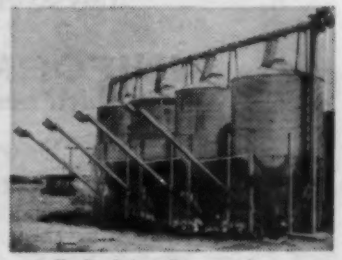
OTTUMWA, IOWA — Orval Johnson and his son, Jerry, are building a new elevator and grain building for their feed business. They are scheduled to move about Dec. 1 to the new location. Their company has changed its name to the Johnson Elevator Co., successor to the Johnson Hatchery, Feed and Poultry. Their new 76x80 steel building and two high bins will house both their distributorship and grain elevator service. They will operate a grain bank for bulk feeds. Glen Bell will head the outside services of the dealership.

Another Simplified . . . Efficient . . . Economical

BAZOOKA
ELEVATOR and CONVEYOR SYSTEM
1,000,000 BU. TERMINAL STORAGE

Made with Standard Sizes of Bazooka Augers

Thousands of bushels easily stored with this Wyatt installation above. It utilizes standard Bazookas in appropriate sizes up to 10 inches to build an automatic system that is highly efficient and economical. Bazooka augers are used at any angle to build installations like those shown here or smaller on the farm facilities. Wyatt engineering services available. Write or phone for details.



Bulk feed handling made easy with this Wyatt installation.

638 feet of standard Bazookas move the grain in this 1,400,000 bushel storage facility

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RUFIS® 74%

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September 29, 1959

Mr. W. P. Mann
5414 1/2 Military Avenue
Room 202
Omaha 4, Nebraska

Dear Wally:

Enclosed is a summary of the production record in our dairy herd. This entire herd was changed over to Occo in September 1957. At the same time we started using Rufis in our Dairy Supplement which is used exclusively in this herd.

We incorporated Rufis into the Occo Dairy Supplement formula after running a trial in the spring of 1957 with part of the cows in this herd. When the first spell of hot weather hits us, we invariably get a drop in milk production due to decreased feed intake. During the trial in the spring of 1957, we found that all cows dropped in milk production and butterfat test, as usual. However, the cows on Rufis dropped in butterfat test only about one third as much as the cows not getting Rufis.

We do not get the so-called "Grass Silage Drop" in production that many dairyman report when they switch from corn silage to grass silage. Last fall I tried some Rufis in a high producing Pure Bred Holstein Herd near Oelwein after production had started to drop following a change from corn silage to grass silage. The drop had been in progress about 5 days. The feeding of Rufis did arrest the drop in production.

I believe these herd records speak for themselves. You have our permission to use them and this letter in any way you wish.

Very truly yours,
OELWEIN CHEMICAL CO., INC.
Maurice E. Baringer
Director of Nutrition

Enc.
MEB:lw

MANUFACTURERS OF Occo FOR ALL LIVESTOCK AND POULTRY

OCCO-CASS HERD RECORD

	Two Years on Occo 1958-59	1957-58	Increase Since feeding OCCO Dairy Supplement containing RUFIS	1956-57
Return Over Feed Cost	$13,460.00	$12,379.00	$5,753.00 (74%)	$7,707.00
Average Cow Years	44.1	45.1	1.8	42.3
Average Return Over Feed Cost	$ 305.00	$ 274.00	$ 123.00 (68%)	$ 182.00
Total Lbs. Milk	577,000	543,220	171,600 (42%)	405,400
Lbs. Milk Per Cow	13,080	12,037	3,498 (36.5%)	9,582
Total Lbs. Butterfat	20,220	19,429	6,635 (49%)	13,585
Lbs. Per Cow	459	430.5	138 (43%)	321.1

These are DHIA records. Records on file at the farm, Sumner, Iowa

1956-57 Return Was...$7,707.00

AFTER ADDING RUFIS

THE RETURN OVER FEED COST IN 1958-59 INCREASED TO...$13,460.00

NET GAIN $5,753.00.....or 74%

OCCO-CASS Milk production increased 42%, Butterfat 49% with an average daily intake of only one gram RUFIS per animal, per day.

There Is Only One RUFIS
DO NOT ACCEPT A SUBSTITUTE
RUFIS is THE NATURAL Live Rumen Bacteria and their Natural Enzymes as nature intended—in proper balance.

You too, Can Improve Your Cattle Feeds WITH RUFIS

Step Up Sales...Increase Profits

. . . and best of all . . . the cost of adding RUFIS to your feed supplement is less than ⅓ of a cent per animal per day. RUFIS stimulates better rumen function . . . appetites improve . . . cattle show better gains . . . better finish and uniformity. RUFIS is hand harvested from Government Inspected Cattle and protected by patent No. 2,560,830.

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A large country plant reports getting as low as 50% yield at times last summer off high-speed equipment.

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Mount Hope Poultry Farm, Inc.
BATAVIA, NEW YORK

Broiler Firm Cuts Feeding Costs, Adds Extra Milling Equipment

By Jess Blair
Feedstuffs Special Writer

In order to reduce operational costs as much as possible, Maple Ridge Broiler Co. of Albertville, Ala., has followed the trend of a number of other feed men in the area. The owners decided to put in a feed mill. They already had some equipment, but added enough extra so they can now manufacture 40 tons of feed per day.

"When broiler prices were down we knew we had to shave growing expenses," said Woodall Rodgers, manager. "Instead of shipping in a complete feed as we formerly did, we now buy the concentrates and mix them with corn. The whole grain corn is brought in from the Midwest and ground here at the mill."

Mr. Rodgers said the saving in feed will pay for the mill in a reasonable length of time. New equipment added includes a Kelly Duplex vertical mixer, a grinder, a Burrows weigh buggy with 1,000-lb. capacity, and two Butler steel bins which hold 25 tons each. In addition there are several other bins that hold about 40 tons each.

"We don't have a lot of storage yet," said Mr. Rodgers, "but we don't need too much, because feed is mixed every day."

Corn is conveyed from the holding bins to the grinder, and then is blown into another bin. From here it is taken out at the bottom into the weigh-buggy and dumped into a chute at the bottom of the mixer. From the mixer the feed goes back into holding bins or directly into a truck waiting outside on the platform scales.

"It's not the biggest mill in the country," Mr. Rodgers said, "but it's so easy that one man can operate it. And it takes just one man to run our 7-ton bulk truck."

Maple Ridge Broiler Co. is owned by two of Mr. Rodgers' brothers, Walton and Emmett. They own a large hatchery at New Market, Ala., and also have their own flocks of breeder hens for producing baby chicks.

Integrated

"It's a completely integrated program except that we have no processing plant for the birds," said Woodall Rodgers, who is in charge of broiler operations at Albertville. "As risky as broilers are, from a market standpoint, the more you can control the complete operation the better off you are. It means getting the best feed for the lowest price, the finest chicks for the least money and then putting a lot of poundage on them as quickly as possible."

Maple Ridge Broiler Co. has been

MANAGER—Woodall Rodgers, manager of Maple Ridge Broiler Co., figures closely on feed and labor and strives for a good feed conversion.

contracting broilers for about two years, and usually has about a half million on feed. The company furnishes the chicks, feed, medication and provides a field supervisor who visits each flock regularly. The farmer puts up a house, usually 20-24 ft. wide, and as long as he wants to build it. He also furnishes all equipment, litter, lights and heat. Then when the birds are sold, he gets paid a certain fee for each bird.

The producers all live within a 35 mile radius of Albertville. They have large feed bins into which bulk feed is augered. The average flock varies from 6,000 to 11,000 birds. Mr. Rodgers says most of the growers are small farmers who needed a sideline income.

Feed Conversion

The company has been getting a good feed conversion because the field supervisor checks closely on each operator. Last summer the conversion averaged about 40%, which means a pound of chicken was produced from less than 2½ lb. of feed.

Usually the company harvests about four crops of broilers annually. In selling them from 9 to 10 weeks of age, this gives ample time to clean out the houses and get ready for the next block of baby chicks.

Handling such a large project can be done without a large crew of workers. At Albertville it is a four-man operation. Besides Mr. Rodgers, there are a feed mill manager, delivery man and a fourth employee who hauls the chickens and does other work. Mr. Rodgers is his own field supervisor, while his wife helps with the books.

In discussing the broiler situation, Mr. Rodgers brought out these points: Profit margins have shrunk so much that the inefficient operator can no

(Turn to page 50)

RENOVATED MILL—Renovated mill at Maple Ridge Broiler Co. enables bulk feed truck to load under a protective cover. Two men load the truck, one on truck and one in mill, but all deliveries and unloading are done by the driver. This 7-ton truck makes several trips daily to broiler farms.

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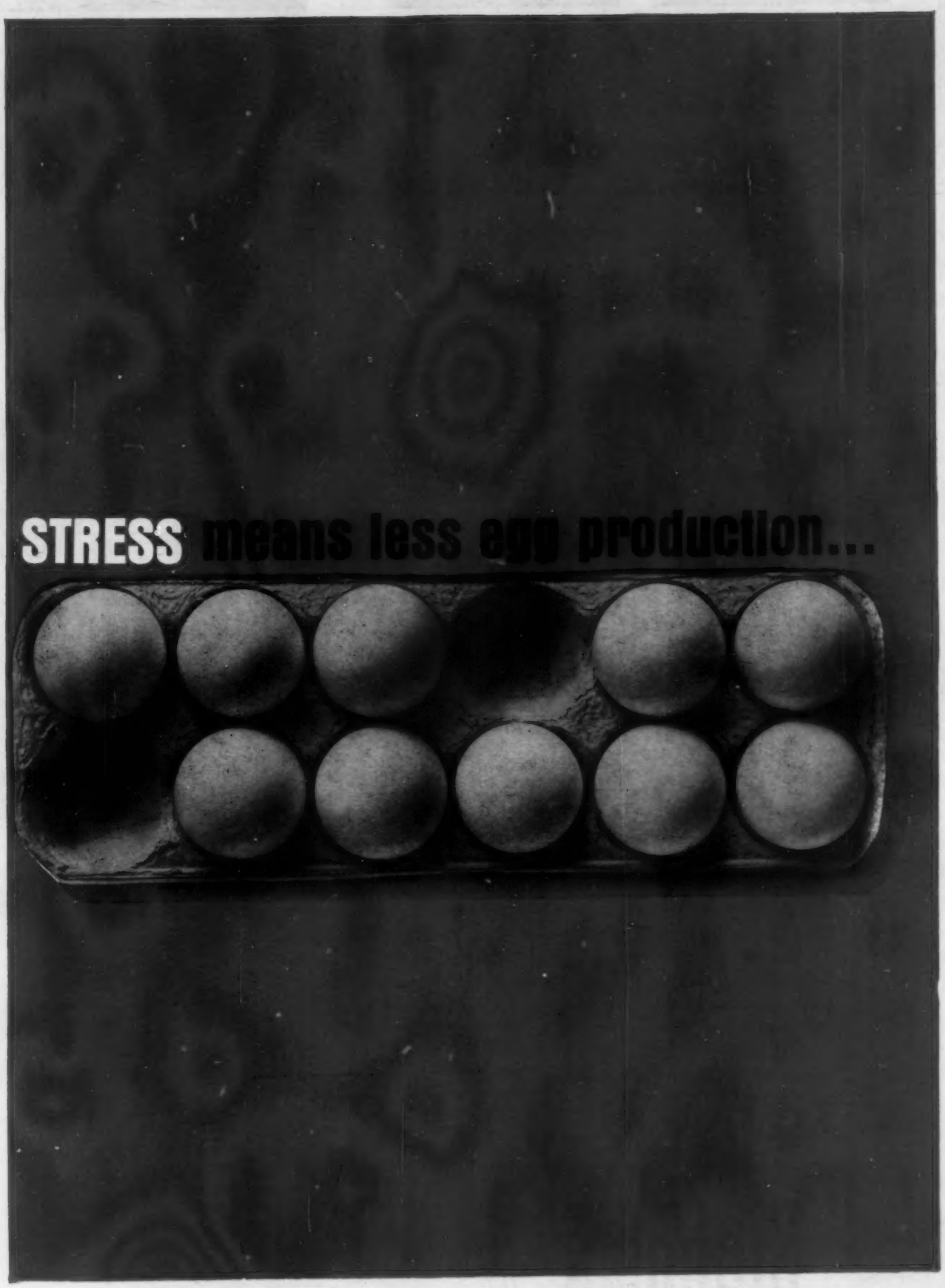
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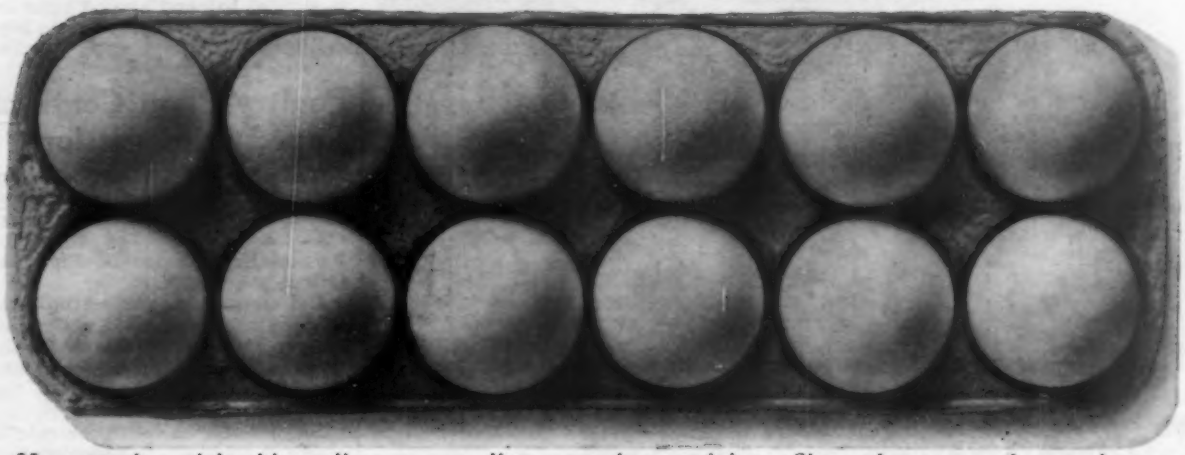

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WEIGH BUGGY — This Burrows weigh buggy helps manufacture more broiler feed with less labor.

longer stay in business. The birds must be grown on a large scale. Feeding and handling methods must be streamlined so that production costs can be lowered. Producers must continually study feeding trends and be able to revamp their plants when needed, for profits at any time depend upon the highest possible feed conversion.

Also, the farm grower must be kept up to date and be willing to cooperate. Mr. Rodgers says a field supervisor must know how to get along with the growers so they will accept his suggestions. Knowing feeds and poultry is not enough—the supervisor must be able to impart this knowledge to the growers in a manner that they will willingly accept.

Discussing trends Mr. Rodgers said, "It isn't difficult to add a few hundred thousand more birds, providing the market is right. This is such a risky business that only the biggest contractors may survive. A lot of smaller companies are likely to go under unless the market takes a rise and stays that way for awhile."

The only thing needed by the company right now is another bulk feed truck. Mr. Rodgers says this will probably be the next thing purchased. The feed mill will take care of considerably more broilers than are being grown at present.

Grading Plan Tested

MADISON, WIS. — The state department of agriculture is inviting the reaction of producers to a proposal to set up a grading program for eggs that would designate "Wisconsin Fresh Fancy Quality" as a grade. The grading program for the egg industry is voluntary. The legislature has declined to set up a compulsory program. The agency will hold a public hearing on the grade proposal at the state capitol Nov. 24.

W. A. Harding Dies

RAYMONDVILLE, TEXAS—W. A. Harding, owner of Evergreen Farms and an alfalfa dehydrating operation here, died recently. He was a former member of the board of the American Dehydrators Assn.

Use of Almond Hulls In Feeds Increases

CHICO, CAL.—A thriving industry has resulted from the discovery in 1950 that almond hulls, when mixed with other ingredients, are palatable in livestock feeds. Almond growers this year will receive an estimated $500,000 for hulls used in feeds.

Before 1950, according to Al Mitchell, farm advisor at Oroville, Cal., 95% of all hulls were burned or otherwise destroyed.

Ray and William Snow, Jr., joint partners in Superior Dryers, Inc., Chico, estimate they will dry a record 10,000 tons of almond hulls this fall. As of late in September, 7,000 tons have gone through. The previous high was 8,300 tons, in 1956.

The actual mixing of the ingredients is done at Chico Meat Co., Inc., where, as Ray Snow explains, it is made into a finished product—including 25% cotton cake and molasses, a derivative of beets, salt and minerals.

Early findings indicated that almond hulls were high in sugar content, but were probably not more than 4% protein. Feeding trials during 1950, supervised by the California Agricultural Extension Service, showed that 6,000 tons of almond hulls produced annually would produce more than one million pounds of beef or lamb. When mixed half and half with a hay mixture, the hulls would produce well over two million pounds of beef.

Early feeding trials showed that beef cattle would gain about 2 lb. a day when fed 10-11 lb. of hulls and 10-11 lb. of alfalfa per day. It was found that beef could be expected to gain a pound from a little over 5 lb. each of hay and almond hulls, or about the same as expected from barley.

Poultry Plant Contract Ended in Mississippi

WATER VALLEY, MISS.—A contract between Yalobusha County and Water Valley Poultry Corp. has been cancelled by decree of Chancellor William H. Anderson of Ripley in Chancery Court.

The corporation was set up after an agreement with Pride of Virginia Poultry Corp. to operate a locally-financed poultry processing plant. The building, completed earlier this year, has never been used.

Judge Anderson heard the case as a special judge after Chancellor Kermit Cofer excused himself because of his previous association with the county during negotiation of the contract.

Judge Anderson first approved a decree pro confesso when motion was made by the complainant that the defendant corporation had not filed an answer to the bill of complaint.

Yalobusha County is now at liberty to negotiate with other processors for operation of the processing plant which was financed with funds set aside for industrial development in supervisor's district 3.

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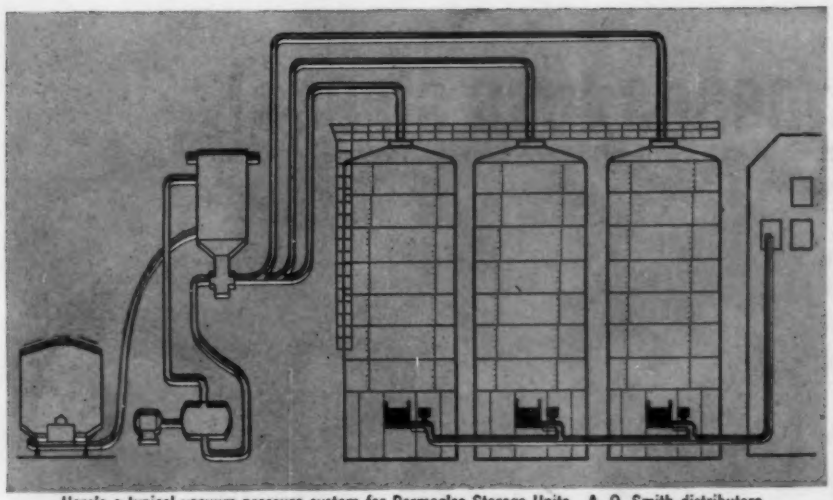

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Dairymen's Interest in Pelleted Hay Increases

BLACKSBURG, VA. — Pelleting hay is becoming of increased interest to dairymen as well as beef cattle and sheep raisers, according to Dr. W. A. Hardison of the dairy science department at Virginia Polytechnic Institute.

Dr. Hardison says research indicates that pelleting hay will increase feed intake and daily gains, give more efficient use of feed and decrease feed wastage.

He says pelleted hay also has storage and handling advantages such as requiring less storage space, being easier and cheaper to ship and being adapted to mechanical handling—thus reducing labor costs.

Cost Drawback

The major drawback at present, he says, is the cost factor, and some dairy experts are concerned that pelleted hay may reduce the fat content of milk. Tests in California show that coarsely ground hay did not produce low-fat milk, but that finely ground hay did.

Dr. Hardison says the proportion of hay to concentrate may also affect the fat content of milk. One dairyman who self-fed hay pellets found that when he dropped the dairy grain allowance from 16 to 12 lb., butterfat percentage dropped also. At 16 lb. per cow, it stayed up. Dr. Hardison says this is contrary to certain other field observations and the present research results.

Experimental evidence shows that when ground and pelleted hay was the sole ration, a reduction in milk fat did not result.

However, Dr. Hardison says, when a small amount of concentrate was added, a drop in fat percentage occurred. He points out that the low milk-fat producing diet was very efficient for producing weight gain in steers.

No change in the solids-not-fat fraction of milk was found in work at VPI when a ration of pelleted mixed hay and concentrate was fed.

Daily intakes of 40 lb. of pellets along with 16 lb. of grain were obtained in this work, while intakes of from 40 to 60 lb. of pellets per cow daily have been reported from the field.

Such levels of consumption, says Dr. Hardison, are desirable if the high intake is reflected in increased milk production and not increased body weight gains.

"Many questions about the advisability of feeding pelleted hay to dairy cows remain unanswered," Dr. Hardison said, "with cost the primary limiting factor.

"However, if the feeding of pellets results in better feed intakes, reduced feed wastage, increased milk production with no adverse effect on fat production and lower labor costs, these factors should more than offset the high cost of grinding and pelleting the hay."

Nebraska Has Booklet On Swine Equipment

LINCOLN, NEB.—A 56-page booklet containing detailed plans for building different pieces of swine production equipment was recently released, according to E. A. Olson, extension agricultural engineer at the University of Nebraska.

The booklet, entitled "Swine Equipment Plans," E.C. 59-708, was prepared by land-grant college personnel in 12 north central states who cooperated with the Midwest Plan Service at Iowa State University. A printing charge of $1 is made to cover cost of publication.

A spot check of equipment plans in the booklet shows plans for building finishing layouts, walk-in self-feeders, creep feeders, hay and silage feeders, loading chutes, dips, gates, farrowing stalls, brooders, nursery pens, waterers, wallows and sun shades.

The plans were developed by the Midwest Plan Service, an official activity of cooperating land grant colleges and universities in the area. Main purpose of the service is to prepare and publish plans for farm buildings and related equipment under the direction of agricultural engineers, animal scientists and consulting specialists.

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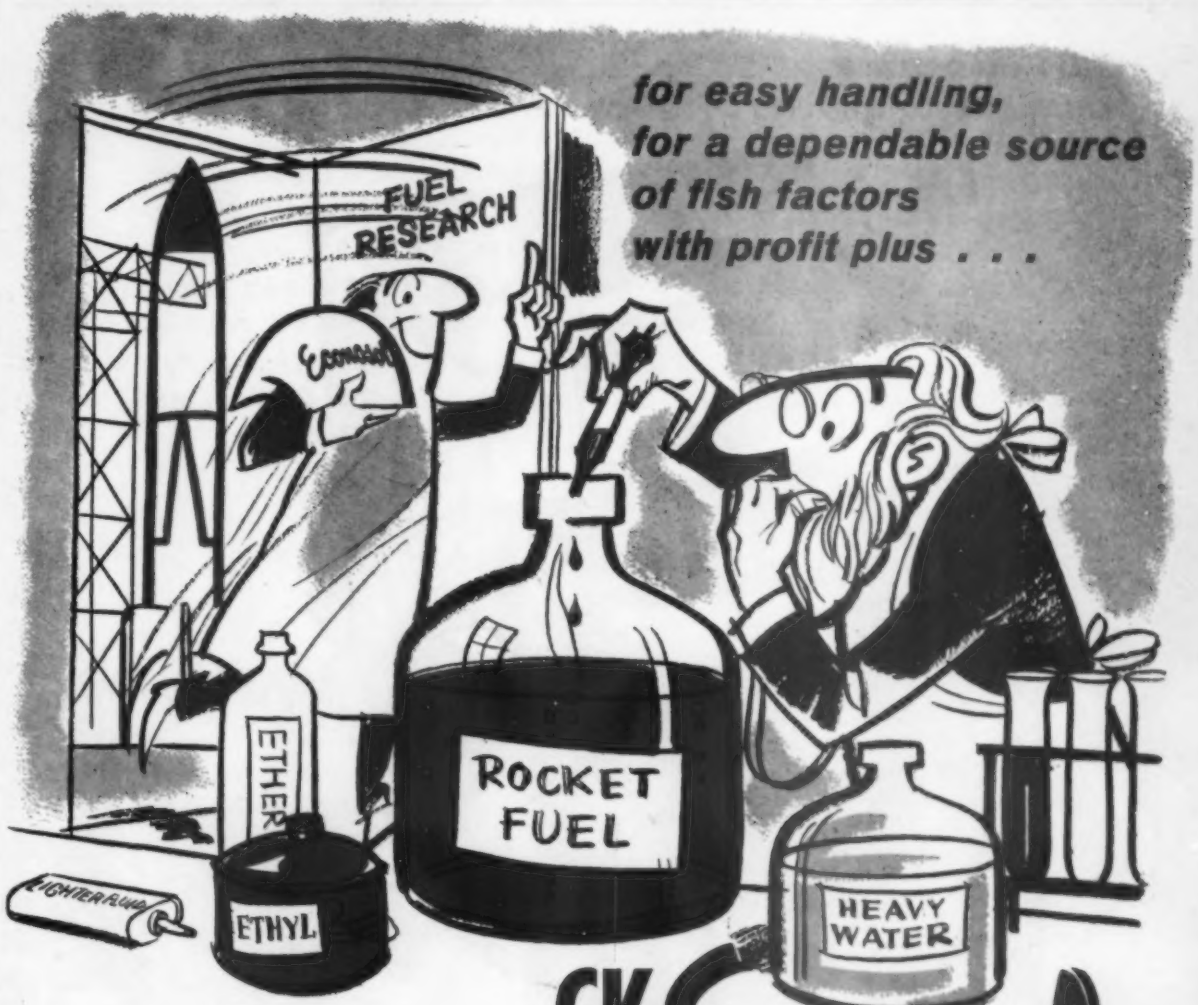

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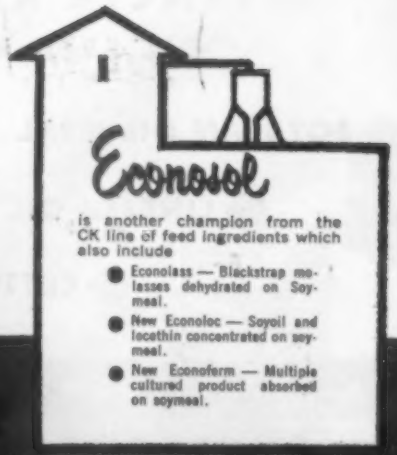
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Latest Break-Through in Plant Science Achieved by Researchers at Beltsville

WASHINGTON — The triggering mechanism for all plant development has been found by U.S. Department of Agriculture scientists. The breakthrough in plant science is described as "a discovery promising to be the key to man's complete control of plant growth from seed germination through plant flowering and fruiting."

Two research men with the Agricultural Research Service, Beltsville, Md., have recovered from corn plants pigment forms with no impurities, which function like enzymes. The scientists credited with the discovery are Drs. Harry A. Borthwick and Sterling Hendricks, who made the discovery in studying the effects of differences in color and intensity of light on growth responses such as flowering, seed germination, elongation, and color production. Associated in the research also were Harold W. Siegleman of the Agricultural Research Service and Carl Norris and Warren Butler, both of the Agricultural Marketing Service.

Dr. Byron T. Shaw, administrator of USDA's Agricultural Research Service, hails the discovery as an outstanding basic research achievement. "It is the kind of discovery envisioned when the department's new pioneering research laboratories were established. It provides means for the better control of plant development for specific purposes—for better food, fiber, and industrial raw material," he said.

For scientists the discovery opens the door to further research of this triggering action to enable man to tailor-make plants for his needs. Possible results are crops of special heights for better harvesting, flowering of plants at times convenient to man, or for better control of plant pests.

It has long been known that light controls the reddening of apples by governing the formation of coloring material. The side of the apple facing out from the tree is usually redder than the side facing the center of the tree.

Recently the scientists found the critical range of light for apple coloring to be in the red region of 6,200 to 6,900 Angstrom units. Above this region the amount of reddening of the apple declines rapidly as the wavelength of light increases toward far-red.

With soybeans growing on short days and long nights, an extremely short exposure to red light during the night will prevent the plant from flowering. Conversely, an equally short period of far-red light causes the plant to flower. However, if the intensity of far-red light is increased 100 times, the plant again fails to flower.

Drs. Borthwick and Hendricks have found growth responses to be governed by a reversible chemical reaction that is controlled by the color and intensity of light acting upon two pigment forms present in plants in invisible quantities.

Pigment Absorbs Light

One form of the pigment absorbs red light and the other far-red light. The pigment form that predominates in a plant depends upon the color of light to which the plant is exposed. The form produced by the action of red light regulates plant growth and can absorb far-red light. However, if this form absorbs far-red light it is converted back to the red-absorbing form that does not regulate plant growth.

To obtain the various colors of light for the experiment, the scientists directed white light from a high-intensity electric arc through a prism to break it into all the colors of the spectrum as in a rainbow. The portion of light used in this work was the red part of the spectrum from yellow (5,800 A) to far-red (near the limit of visible red light (7,000 to 7,500 A), which is near the range of infra-red or heat energy). An Angstrom unit, a measure of wavelength of light, is one millionth of a centimeter.

Colors in the yellow and orange range of 5,800 to 6,300 A are absorbed largely by the red-absorbing pigment form, moving the photoreaction toward the production of the growth regulating form.

The red-absorbing form can utilize more light in the 6,300 to 6,700 A region, red-orange to red, than in other ranges. Therefore, this is the range requiring the least amount of light energy to convert this pigment form to the regulating pigment. Both pigment forms are present in this range of colors, but the regulating type predominates.

Both forms of pigment are present in about equal amounts in the 6,700 to 7,200 A (red) region, with the midway point in the reaction about 6,950 A. At longer wavelengths the reaction moves toward the red-absorbing form and the shorter wavelengths (toward yellow) stimulate the production of the growth regulating form.

In the far-red region of 7,200 to 7,800 A light absorption by the regulating form of pigment is at maximum, moving the reaction toward the reformation of the red-absorbing form.

It is the selective absorption of the various colors of light by the two pigment forms that apparently governs many phases of a plant's development, including flowering, germination, and elongation, and that promises to add even more knowledge of plant development.

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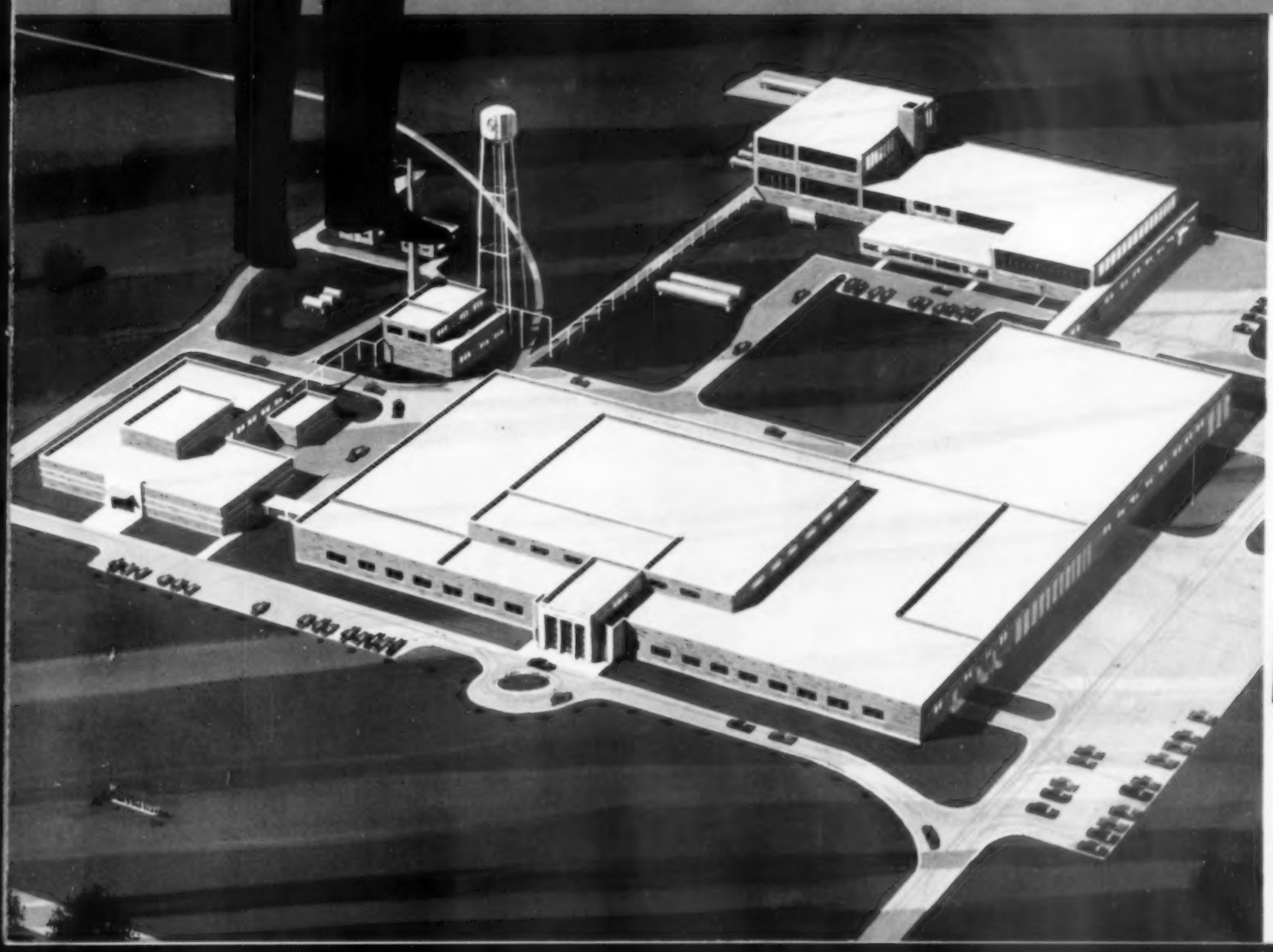

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The 78 Territory and District Managers shown here average 12 years of experience with Dr. Salsbury, working first-hand with feed manufacturers, poultrymen and dealers. One of them is assigned to your territory. Contact him, at the address nearest you.

Your Dr. Salsbury's representative is a walking encyclopedia of practical information about poultry and feed medication. He can provide the advice you often need regarding disease and programs of prevention and control. He keeps informed on industry problems, and can help in the training of your staff, through on-the-farm service calls, and even with feed merchandising programs. In short, he can

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A. R. FRANK Fargo, N. Dak.
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One of the most valuable functions of the Dr. Salsbury Territory Manager is that of middle-man between the field and laboratory. He represents you to us—and the other way around. He is your key to all the valuable services of the entire Dr. Salsbury organization. Most of the services discussed in this brochure are available through the Territory Manager.

Six Dr. Salsbury District Managers can offer you much the same kind of help . . . and back up the service of the Territory Manager near you. Your Dr. Salsbury representative is a good man to know. Through him, Dr. Salsbury's "Scientific approach to poultry and swine health problems" offers real help to you and your feed customers. Use his talents—and those of others available through him—to make your business more successful, more profitable.

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C. B. WALLS Easton, Md.
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These District Managers Co-ordinate Territory Manager Services

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V. I. HELGEN Morton, Ill.
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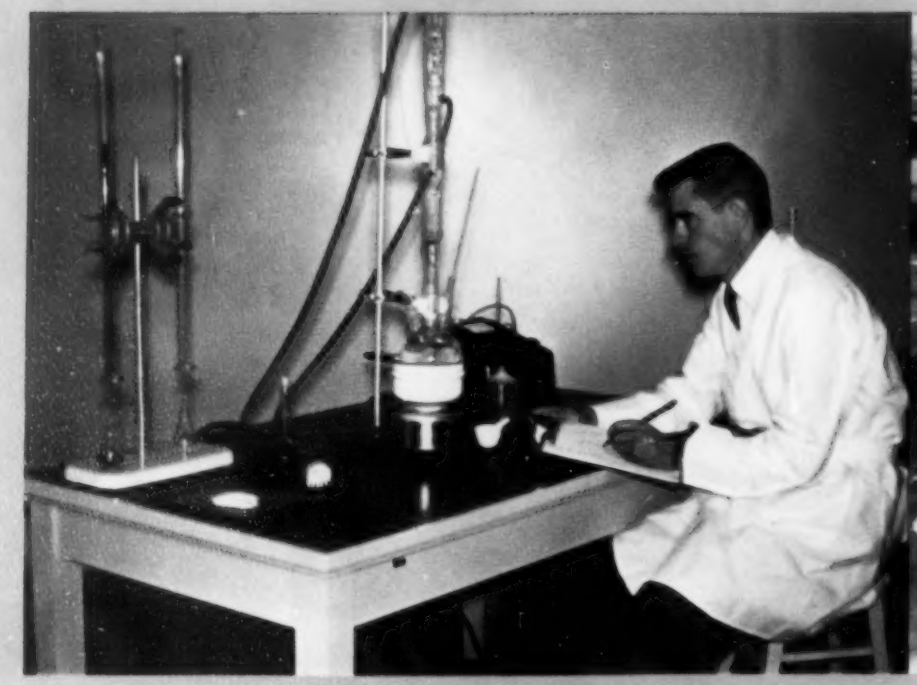
Poultry and Swine Health Specialists

Research is the starting point, the launching pad for all progress in the field of poultry and livestock health. Research in feed medication requires both highly trained specialists and the very best facilities. Our large staff includes chemists, bacteriologists, biochemists, protozoologists, virologists, parasitologists and pathologists, all working closely with poultry and swine disease problems in the laboratory and in the field. These men are recognized as top scientists. They are members of a research team that has made signal contributions to agriculture through the development of new, more effective feed additives and other health products. Keenly aware of the need for feed-medication programs that work in the field, Dr. Salsbury's specialists are at your service with quality product research.

For these scientists to carry out their experimental work, they need not only the most advanced laboratory equipment but practical testing facilities as well—where typical farm conditions can be simulated. Dr. Salsbury's Research Farm — where modern broiler, layer, and turkey houses are located—is typical of the experimental facilities of the Laboratories. Here, many different flocks and thousands of birds of all ages are being constantly tested for effectiveness of treatments and practical methods of application.

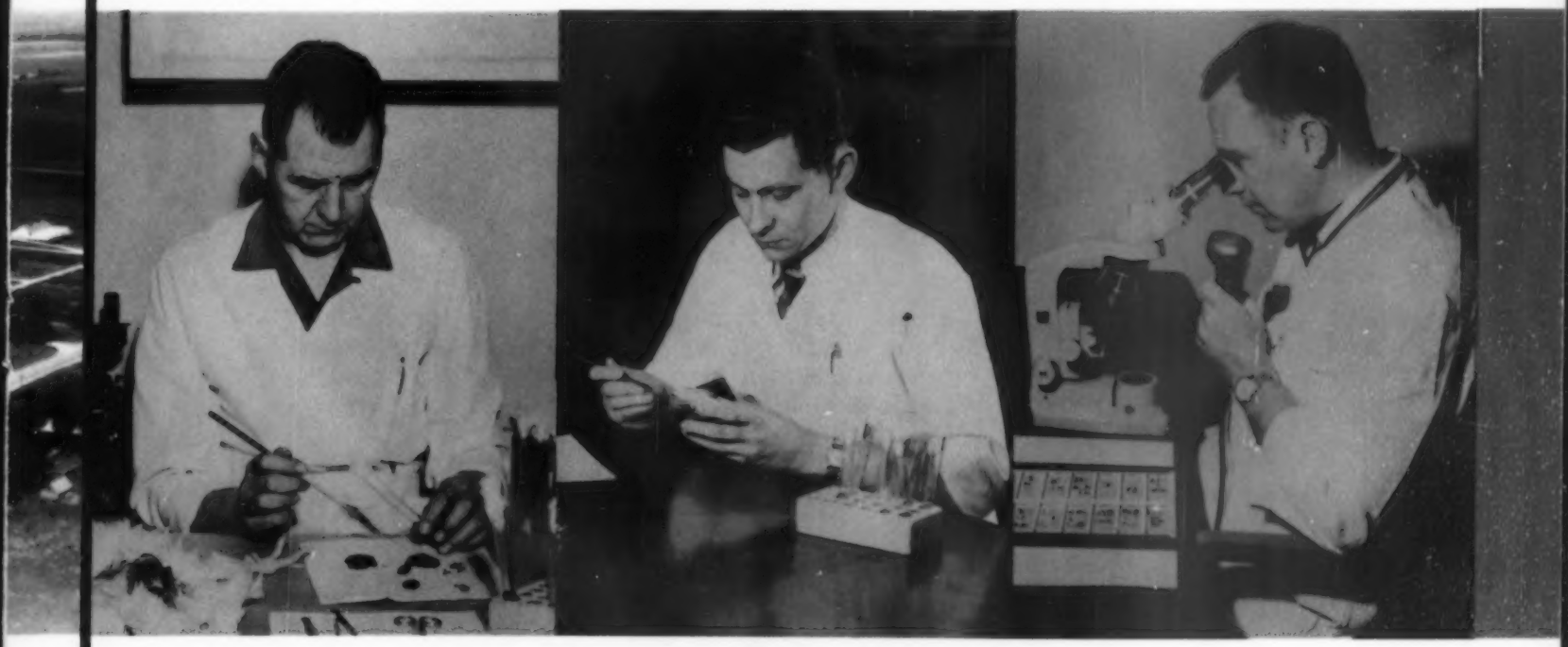


Dr. Salsbury's Laboratories–the Scientific

HELP SOLVE MANY OF YOUR FEED PROBLEMS

Professional Diagnostic Service

Many flock troubles can be solved in the field, with the assistance of your Dr. Salsbury's Territory Manager, but when problems arise that require professional scientific advice, he will be the first to propose submitting specimen birds to a diagnostic laboratory. He knows guesswork can be costly—to you, your feed dealers or customers. Dr. Salsbury's diagnostic facilities are widely used by all segments of the industry. Feed manufacturers, dealers and fieldmen, as well as college laboratories, experiment stations and local poultry producers, annually send thousands of cases to Dr. Salsbury's Department of Veterinary Pathology. This department, using a number of modern techniques, provides a complete diagnostic service. This important service seeks to find the underlying cause of disease in a flock, so that steps may be taken to control immediate mortality and to establish a program of prevention. This service is, of course, supplementary to state diagnostic laboratories; both are doing essential work for the good of the poultry industry. Complete details and information on how to use Dr. Salsbury's diagnostic and other scientific services may be obtained from your Territory Manager.



Approach to Poultry and Swine Health Problems

EDUCATIONAL SERVICES AVAILABLE TO YOU...

Poultry Short Course

Today, more than ever, disease is a major threat to poultry profits. The average poultryman is beset with complex conditions requiring careful study and sound advice. He needs help. And he expects his poultry feed to do a lot more than provide the essential nutrients for growth. You can provide a large measure of the help he needs—by building a better feed and servicing your customers with trained, capable fieldmen.

Dr. Salsbury's Poultry Short Course provides an intensive, practical kind of training in how best to prevent and control poultry diseases. It is widely popular and highly respected. To date, over 10,000 dealers, field servicemen and poultrymen from every state, and many foreign countries, have taken the course during the 25 years it has been held. While attending the 4-day course, students "learn to do by doing." They do laboratory work, post-mortem examinations, blood testing, vaccinating, and other such work with poultry. Every modern teaching technique is used to give the student a chance to see for himself many of the disease conditions encountered in the field, so he will be better able to cope with them later.

To find out more about Dr. Salsbury's Poultry Short Course, contact your Territory Manager. Or, write direct to Charles City.

Field Symposiums

These are group meetings, held in various areas. They are similar in purpose to the Short Course, except they are more accelerated and characterized by discussions of disease conditions, presented by experts in their respective fields. Many meetings are held in co-operation with other groups such as the Extension Service, poultry improvement associations and the like. Every year sees an increase in the number of field meetings held for the purpose of training the salesmen or fieldmen of feed companies and dealers.

TECHNICAL SERVICE ADVISERS ARE SPECIALISTS IN FEED MEDICATION

These men, who are trained specialists experienced in feed medication and poultry disease control, are available through your Dr. Salsbury's Territory Manager or direct from Charles City. They can give you most up-to-date advice and help, because they are in constant touch with college researchers, industry specialists, and practicing veterinarians. They work closely with local people, especially veterinarians.

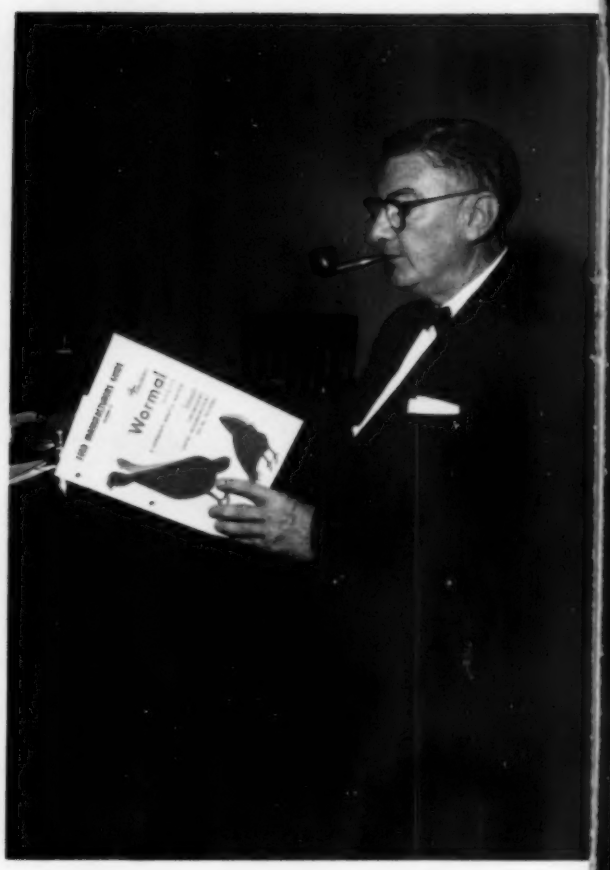
Dr. Salsbury's Technical Service Advisers can help you and your growers develop effective disease-control programs—through medicated feed. They're also available to you as trouble-shooters. They can be at the trouble spot in a matter of hours. And they bring the entire technical resources and know-how of Dr. Salsbury's Laboratories to your aid.

Make full use of Dr. Salsbury's Technical Service Advisers. Their help means the use of professional skill and facilities that are vital, yet lacking in many places.

Feed Analysis

For a feed medicant to do its work, the additive must be mixed thoroughly throughout the batch, so that any given portion of the feed eaten by the birds will contain the correct dosage. Otherwise, one bird might get more medication than necessary, while another one fails to get enough for full protection. The only way you can be sure of optimum distribution of the medicant throughout the feed is to follow mixing directions to the letter. Then have random samples analyzed. We can do this for you—if you have no chemist or if you want your own analyses checked by an outside laboratory. Of necessity, however, the number of feed analyses we can make is limited. Please check with your Dr. Salsbury Territory Manager and let him make arrangements for you.

SCIENTIFIC INFORMATION
that helps you and your staff keep up with industry changes



Agriculture is dynamic, ever-changing. This is especially true of the field of poultry health and medication. As a result, many feed manufacturers and dealers find themselves hard-pressed for time to keep abreast of these many changes. One way to do this is to take advantage of Dr. Salsbury's scientific information service.

An extensive series of Feed Manufacturer's Guides, research bulletins and reports covering practically every phase of poultry health and feed medication, will be sent to you regularly at your request. These materials are all designed to meet the needs of feed manufacturers and dealers as the latter give dependable information and service to their feed customers. Disease manuals and guides can be of great value to your field servicemen as they seek to bring more effective service programs to the users of your feed.

See your Territory Manager or write direct, asking that your name be put on the mailing list so you, too, can get this scientific information regularly.

Please write, wire or phone for further information about any particular service mentioned in this brochure. Or, if you are interested in some service not mentioned here, please ask about that also. We will do our best to take care of your request.

Remember to contact your Dr. Salsbury's Territory Manager. He can be most helpful to you in many ways. A majority of the services discussed herein are available direct from Charles City; in most cases, however, we recommend that you contact your Territory Manager first and let him make the arrangements. Make him your "Partner in Service." It is his business to help you—and to help make your own business more profitable.

Dr. SALSBURY'S LABORATORIES
Charles City Iowa

NATIONWIDE SERVICE TO THE FEED INDUSTRY

PRINTED IN USA

FORM NO. 1584-59

Farm Editors See End of Surpluses

ROCKTON, ILL.—Farm surpluses will gradually be eliminated while farm size and individual farm income double between now and 1980, according to a survey made here among 70 of the nation's leading farm editors.

The editors were recently gathered at the Marsteller-Rickard Farm Editors Forum, a press showing of the latest techniques in scientific agriculture. They predicted that farmer-controlled marketing organizations will take over government's role in agriculture by 1980 and gradually bring production into line with demand. The growing population, increased foreign trade and new uses for agricultural products will also help eliminate farm surpluses.

The editors expressed near universal agreement that fewer farms, each of larger average acreage but still family-operated, will emerge over the next 20 years. Marginal, unprofitable units will be absorbed by the profitable ones that remain, they said. Farms that do not increase their acreage will expand their production of specialty crops or livestock in an era of increasing specialization.

Some of the developments forecast by the survey include: machines that will prepare the soil, plant, fertilize and treat for weeds in one operation; weedicides and insecticides that will be 100% effective; dwarf corn for combine harvest that will grow in narrow rows and set six to ten ears per stalk; shorter, stiffer strawed varieties of small grain that will permit heavy fertilization and produce yields of 100 bushels per acre, and machines for harvesting, drying and pelleting hay in the field.

A doubling of college attendance within 10 years and a pooling of research facilities among the nation's land-grant universities, to help stretch education dollars, was forecast by Dr. James A. McCain, president of Kansas State University.

Dr. McCain said a combination of doubled student enrollment and increasing complexity of research tools will stimulate regional cooperation between universities.

He predicted enrollment in land-grant universities will grow from the present 3 million to more than 6 million by 1969. Sharpest enrollments will occur in graduate schools, requiring either vast increases in spending for research equipment, or a pooling of such facilities as subatomic particle accelerators, nuclear reactors and electronic computers.

"This acceleration of the number of students engaged in advanced study will help remedy a serious shortage of men with doctor of philosophy degrees in many scientific and technological fields," Dr. McCain said. "Nowhere is this short supply of men more critical than in scientific agriculture.

"There are teaching and research positions now available for twice our annual output of Ph.D.'s in such areas as genetics, entomology, animal nutrition and plant pathology," he said.

Panogen Co. Makes New Appointments

CHICAGO — Dr. Raymond Seven, formerly technical director of Panogen Co., has been appointed assistant general manager, according to Petrus Hellman, president and general manager.

Panogen Co. is a division of Morton Chemical Co. with headquarters in Chicago. In his new position, Dr. Seven will be in direct charge of sales administration. Also, as in the past, he will be responsible for technical development of products within the company.

Mr. Hellman also has announced the appointment of Charles Hutchinson as marketing manager for seed treatment products, and William J. Crist as marketing manager for the soil pesticides.

Mr. Hutchinson and Mr. Crist will be responsible for all aspects of marketing of their respective lines, including selling through the common sales organization, sales promotion, sales training and product use. Responsibility for development in the grain fumigation field will continue to be handled by Roy Stutzman, as technical sales representative.

Panogen Co. markets chemicals to protect seed from diseases and insects, grain and soil fumigation products and repellents that keep animals and birds away from crops, trees and shrubbery.

Named Distributor For Myers-Sherman

STREATOR, ILL. — The Myers-Sherman Co. has announced the appointment of B&W Elevator Supply Co., Minneapolis, as a distributor in Minnesota and in adjoining northwest areas.

C. Robert Myers, president of Myers-Sherman, said that B&W Elevator Supply Co., working with his company, will offer feed firms in the area a service covering "all facets of engineering, design, construction and equipment. This will provide a 'single-responsibility' method of building complete feed plants."

"Both Myers-Sherman and B&W maintain staffs of engineers specializing in feed mill design and process flow," Mr. Myers said. "B&W also supplies construction service on Butler bolted tanks and furnishes construction and installation crews.

"As Myers-Sherman representative, the company will handle the complete line of Fords equipment for feed processing."

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Now! More "Buy-Appeal" for Every Dog Owner!

Now, with new Blatchford's CRUMBLES and REGULAR DOG-RATION you can give owners the kind of feeding they like best for their dogs. You'll satisfy more customers—make more repeat sales, too. Because dogs love the extra flavor, extra appetite appeal of *Treat-Formulated* DOG-RATION—keep coming back for more. And dog owners like the savings they make! Low-cost, premium quality DOG-RATION is a scientifically blended, balanced diet for maximum health and good spirits.

Ask your distributor for new CRUMBLES and REGULAR Blatchford's Treat-Formulated DOG-RATION, now available in both 5 lb. and 25 lb. bags. Or write Blatchford's today. Dept. 2119

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Thyroprotein Increases Baby Pig Gains in Nebraska Tests

LINCOLN, NEB. — Improvements in both baby pig gains and feed efficiency were reported with the use of thyroprotein in feed in experiments recently at the experiment station of the University of Nebraska.

These results were reported by Dr. E. R. Peo, Jr., and Dr. D. B. Hudman of the university during the 24th annual Rooters Day recently here. The program is sponsored jointly by the university and the Nebraska Livestock Breeders and Feeders Assn.

Baby pig gains were increased approximately 18% and feed efficiency improved 9% when both soybean oil meal and dried skim milk basal diets were supplemented with the metabolic stimulant thyroprotein, the researchers said. This compound contains approximately 1% thyroxine, a hormone which regulates body production.

Success also was reported by the two men in stimulating sow and pig performance with a hormone. Baby pigs nursing thyroxine-implanted sows weighed on an average of 2 lb. more at five weeks than pigs nursing sows that received no implants, said the scientists.

"The 2 lb. difference represents approximately a 10% increase in gain to five weeks of age and may represent as much as a 5-10 lb. difference at market age," they said.

Reports of various swine studies conducted during the past year were given by four members of the department of animal husbandry at the college. Besides, Dr. Peo and Dr. Hudman, Dr. Lavon Sumption and Charles Adams gave reports.

Here are other highlights of their reports:

- Implants of 0, 20, 40 and 60 milligrams of the hormone sodium-l-thyroxine produced very little difference when total lean cuts (loin, ham, picnic and shoulder butt) were calculated as a percentage of cold carcass weight. However, when live backfat probe, carcass backfat thickness, total lean cuts and estimated percentage of fat and lean were considered together an implant of 60 milligrams of the hormone produced leaner hogs.
- Oleandomycin, a recent addition to the antibiotic family, shows considerable promise as a feed additive for swine rations. The addition of this antibiotic to the basal ration increased pig performance (gain and efficiency).
- Litters of pigs farrowed on pasture last fall and reared in individual lots during the winter had a lower death loss and gained faster than pigs raised in a heated barn.
- Longer hogs actually have more total loin muscle. At least this was found in research with over 600 carcasses in the swine breeding project this year.
- Growing-finishing pigs fed rations containing milo on a pound for pound substitution for corn made comparable gains and produced comparable carcass leanness. More research is needed.
- With proper supplementation, plant proteins can replace animal proteins for growing-finishing swine.
- The most reliable indication of lean in the hog carcass is provided by the loin index. The loin index is the simple ratio found by dividing the trimmed loin weight by the untrimmed loin weight. Here the larger the index number, the leaner the carcass will be.

Summaries of some of the reports follow:

INCREASE BABY PIG GAINS WITH THYROPROTEIN—The baby pig gain observations resulted from two experiments conducted to determine if a metabolic stimulant, such as thyroprotein, would be effective in increasing the output of enzymes by the baby pig.

It is thought that baby pigs do not have sufficient enzymes (up to five weeks of age) to fully utilize the proteins in their diets, particularly the plant proteins.

In the first experiment, the pigs were carried on the experimental rations for a 28-day period and then switched to a 16% protein grower ration for an additional 14 days to determine the carry-over effects of the various treatments.

The results show an increase in gain and a decrease in feed required per pound of gain with increased levels of thyroprotein. The pigs fed the soy-basal plus 40 milligrams of thyroprotein per pound of feed gained 4.5 lb. more than the pigs fed the soy-basal diet and .4 lb. more than the pigs fed the positive control dried skim milk basal diet during the 28-day test period.

Pigs fed the high level of thyroprotein required .33 lb. less feed per pound of gain than those fed the unsupplemented soy-basal diet and were about equal in efficiency to those fed the dried skim milk ration.

Gains made by the various treatment groups during the 14 days after the treatments were stopped indicate

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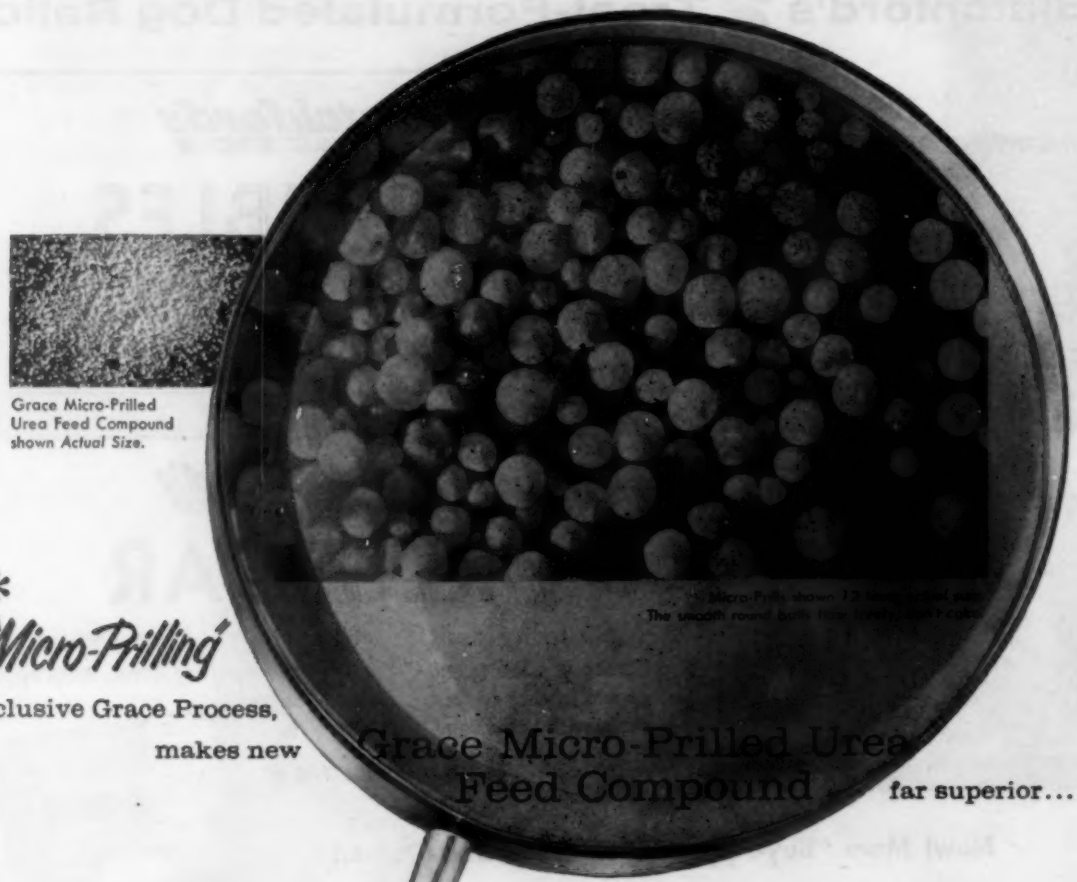

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that the removal of thyroprotein from the ration did not depress gains. In fact, gains increased for the pigs which had been fed the higher levels of thyroprotein.

In the second experiment, pigs fed thyroprotein gained more than those fed the control ration. When thyroprotein was fed at the level of 40 milligrams per pound of ration, gains were less than when fed at the 10 or 20 milligram level. Pigs on all levels of thyroprotein required less feed per pound of gain than those fed the unsupplemented ration.

These experiments indicate that the hormone thyroxine may play a considerable role in increasing the utilization of proteins by the baby pig but the levels to feed and the best method of administration need further study.

STIMULATING SOW AND PIG PERFORMANCE—Two experiments involving sows and litters were conducted to determine the effect of amount and time of implanting pregnant sows with sodium-l-thyroxine. Gains of baby pigs nursing the implanted sows were the primary measure in evaluating the thyroxine implants.

Results from one experiment indicate that sows implanted with 20 milligrams of sodium-l-thyroxine at the 110th day of gestation produced the heaviest pigs at five-weeks of age. The increased pig gains were accompanied by heavier weight losses by the sows. Some of this loss of weight may be attributed to lower feed intake by the sow, but previous work has shown that thyroxine implants cause a greater loss of weight in lactating sows if the feed consumption is the same as control sows.

This loss of weight probably is due to the funneling of nutrients for milk production instead of body maintenance.

From the results of the first experiment, it seemed feasible that a higher level of implant (40 mg.) at an earlier stage of gestation (107 days of gestation) should increase gains of pigs up to five weeks. However, when sows were implanted with 40 mg. of sodium-l-thyroxine at the 107th day of gestation there was no improvement in pig performance up to five weeks of age. The loss of weight by the sows from farrowing to five weeks lactation was less for the implanted sows than the sows receiving no implant.

Further research needs to be conducted with sodium-l-thyroxine implants to determine the optimum level of implant, the time to implant, rate of absorption of the implant and its effect on sow milk production before the hormone can be recommended for use to the swine producer.

HORMONE PELLETS IN SWINE NUTRITION—Previous research by this station indicates that growing-finishing swine implanted with sodium-l-thyroxine may produce leaner swine carcasses without lowering gains.

When total lean cuts (loin, ham, picnic and shoulder butt) were calculated as a percentage of cold carcass weight, there was very little difference between the experimental treatments. However, when live backfat probe, carcass backfat thickness, total lean cuts and estimated percentage of fat and lean were considered together the pigs implanted with 60 mg. of thyroxine appeared to have been leaner.

FROM PLANT TO ANIMAL PROTEIN—Research shows that soybean oil meal can replace meat and bone scraps in swine rations. The results of research conducted at the North Platte Station show that pig gains decrease as the level of meat and bone scraps increase in the ration. A similar experiment was conducted at Lincoln with meat and bone scraps fed at levels of 0, 2.5, 5.0, 7.5 and 10% of the total ration.

The most economical gains were made by pigs fed the ration formulated with only soybean oil meal as the major source of protein. Pig performance (gains and feed efficiency) was reduced when the rations contained 10% meat and bone scraps. Pigs fed rations formulated with 0 or 2.5% meat and bone scraps required less feed per pound of gain than those fed the other ration treatments.

Feed required per pound of gain, as well as feed costs, tended to increase as the level of meat and bone scraps was increased in the ration.

When high levels of meat and bone scraps are fed in swine rations, there is the possibility that rate and efficiency of gain may be reduced because of a high calcium content.

LEAN CARCASSES AND GOOD GAINS WITH MILO—Experimental observations have indicated that growing-finishing pigs fed rations containing milo on a pound-for-pound substitution for corn made comparable gains and produced comparable carcass leanness.

Two experiments were conducted to compare pig performance and certain carcass characteristics of growing-finishing pigs fed rations containing corn or milo.

The average daily gain in both experiments was about the same for pigs fed the corn or milo rations. However, the amount of feed required per pound of gain was consistently larger for pigs consuming the milo rations. This is in agreement with previous experimental results. Also, there was very little difference in the average daily gain and feed required per pound of gain between the groups of pigs fed the four milo varieties in their ration.

In both of these experiments, the average carcass backfat thickness,

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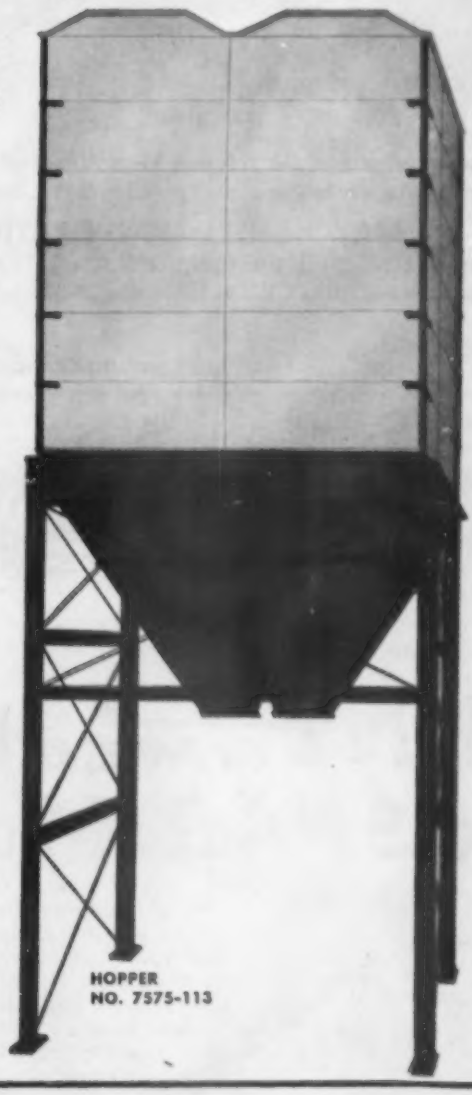
The solidly welded base and the Lemanco patented corner holding the side sheets in tension introduces a new concept in the construction of feed storage facilities. Shown are two examples of bin clusters with capacities of 20 tons and 94 tons. These bin clusters are formed by using four hoppers with common wall partition giving four storage compartments.

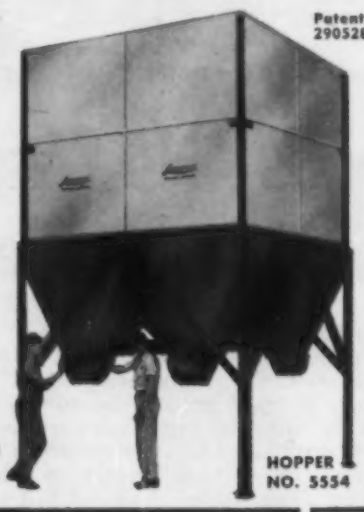
Lemanco bins are designed for inside or outside storage with models available for side draw or corner draw. This construction permits joining in a straight line as well as shown.

When inquiring about these bins be sure to specify if pneumatic delivery will be used.

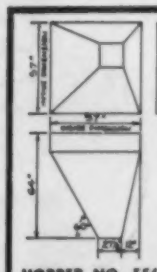


HOPPER NO. 7575-113

Patent 2905283

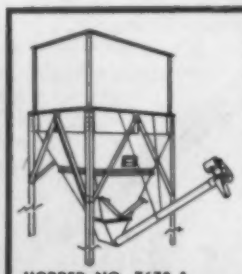


HOPPER NO. 5554



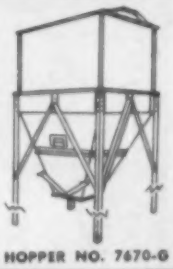
This corner draw hopper for augering "hard-to-handle" ingredients has a minimum pitch of 60° and two practically straight sides. Hoppers can be clustered as the 5554, above, with discharge into individual auger boots or into a common auger boot.

HOPPER NO. 5564



This general purpose side-draw bin for use with auger or weigh buggy has a capacity of 5¾ tons and a maximum capacity of 8¾ tons with another tier of sides. The bin can be used inside as well as outside. Inverted rotary gates, as shown, permit partitioning. Other type gates also available. The minimum 60° pitch of this hopper makes it useful for many applications. It can also be clustered.

HOPPER NO. 7670-A



HOPPER NO. 7670-G

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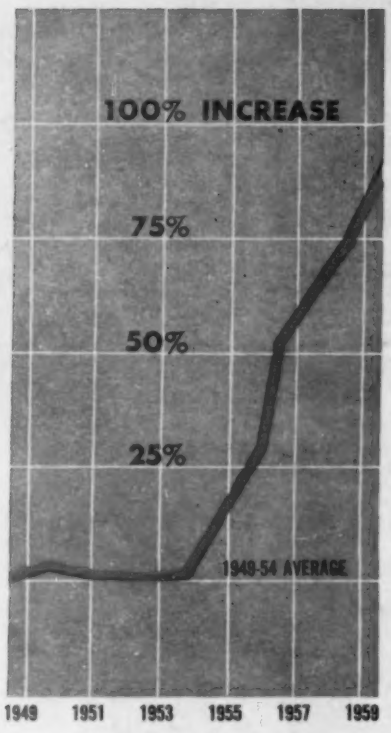

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estimated percentage of lean and estimated percentage of fat were about the same regardless of ration treatment.

SOMETHING NEW IN ANTIBIOTICS FOR SWINE—Oleandomycin, a recent addition to the antibiotic family, shows considerable promise as a feed additive for swine rations, the researchers said.

Sixty crossbred pigs were used to evaluate Terramycin, oleandomycin, zinc bacitracin and zinc bacitracin plus penicillin as antibiotics for growing-finishing swine.

Pig performance (gain and feed efficiency) was improved by the addition of oleandomycin to the basal ration. Pig performance generally was not improved with the other antibiotics.

This observation was made on the basis of an experiment conducted with growing-finishing pigs self-fed in concrete-floored pens for a period of 92 days.

The greatest average daily gains were made by the pigs fed the basal ration plus five milligrams per pound of oleandomycin. There was very little difference in the gains made by the pigs fed the other antibiotics.

"This suggests that the response to these two antibiotics (observed in the previous years) has disappeared," the report said. "This may be due to a reduction in disease level of the area in which the pigs were confined through prolonged use of antibiotics. On the other hand, the response to the oleandomycin may have been the result of a control of organisms which are resistant to or unaffected by Terramycin and zinc bacitracin.

"Pigs fed rations containing oleandomycin and zinc bacitracin required 3.26 lb. of feed per pound of gain. This was .09 to .18 lb. less than that required by the pigs fed the other treatments. The pigs fed the control ration required less feed per pound than those fed rations with Terramycin and zinc bacitracin plus penicillin."

PIGS SHOULD BE ALONE AND COOL—Litters of pigs farrowed on pasture last fall and reared in individual lots during the winter had a lower death loss and gained faster than pigs raised in a heated barn.

If the results of this experiment are confirmed by additional work it may cause swine producers to take a fresh look at the kind of housing and management systems they establish for multiple farrowing.

Mortality to weaning was high among barn-raised pigs. Weaning weights of pasture-reared pigs were higher even though their dams were nursing larger litters.

It is interesting to note the increasing spread between the average pig weights in the two environments. A difference of four pounds at weaning increased to 28 pounds at 140 days, favoring pasture management.

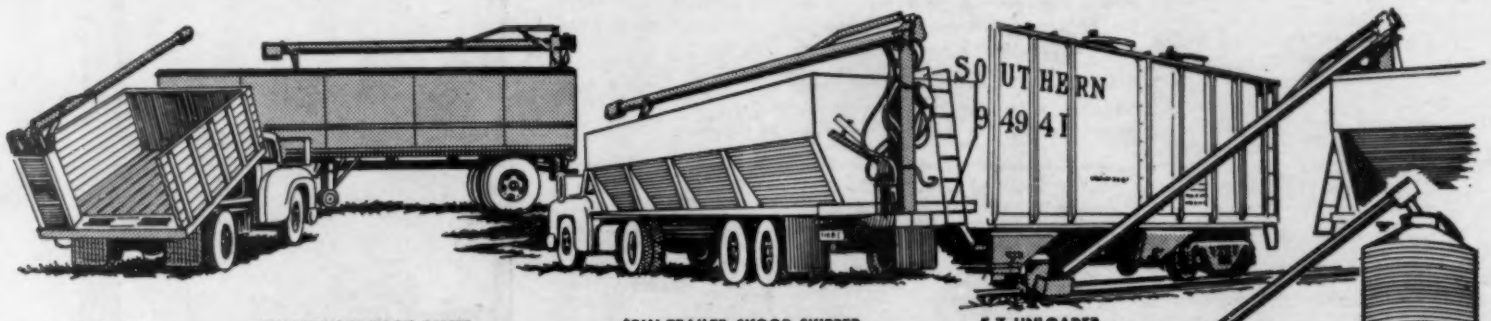
There was no difference in feed efficiency although higher growth rate is usually associated with lower feed requirements.

EFFECT OF SIZE OF BOAR—"Contrary to popular belief, the boar does not have any direct effect on the size of swine litters he sires," a Missouri researcher said.

Dr. J. F. Lasley, member of the University of Missouri animal husbandry staff, said, however, the boar does have an influence on litter size through his daughters. Through their daughters, different boars produced variations ranging as high as 4% in litter size.

Dr. Lasley also pointed out that pig losses during pregnancy amount to 30% of average litter size. He cited a study which showed that an average of 13.4 eggs were produced by the sows.

An average of 12.7 of these eggs were fertilized. After 17 days, only 10.3 of these fertilized eggs were still alive. At 55 days of pregnancy, only 9.2 of the original eggs were



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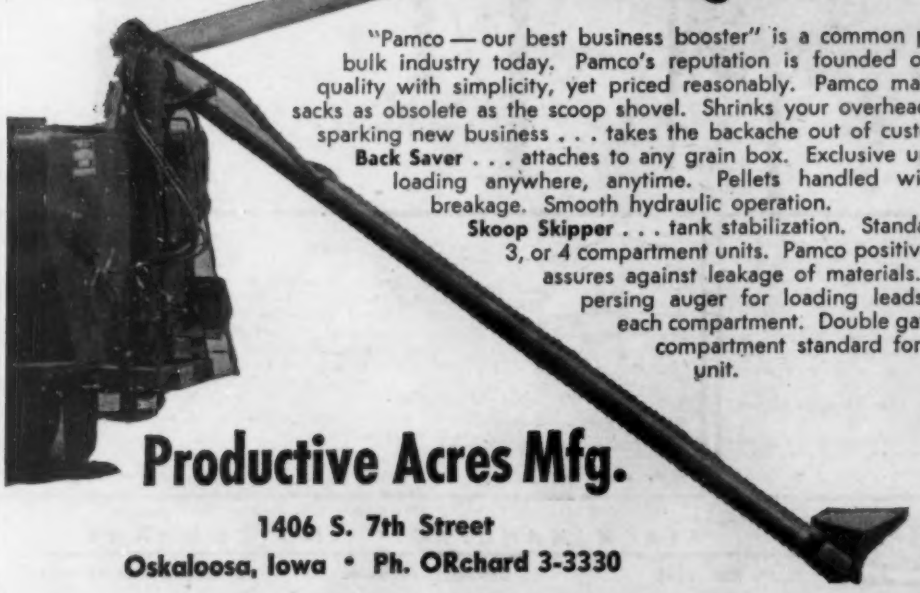

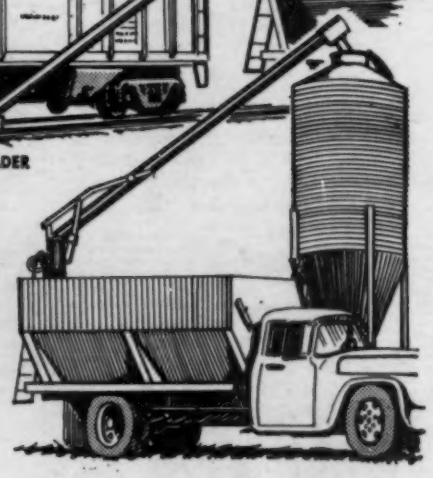

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still alive and at birth this total dropped to 9.0 eggs resulting in actual pigs born.

In an effort to curb these losses, Dr. Lasley said they have tried using the hormones progesterone and estrogen to speed development of the uterus in sows to avoid overcrowding of the young pigs during pregnancy. When these hormones were given for a 10-day period starting 14 days after conception, pig losses during pregnancy were reduced 23%.

He also reported on progress in the use of artificial insemination in breeding sows. "To date it is impossible to ship the hog semen since it will not keep for more than 24 hours. As a result, there is a need to find ways of preserving the semen for longer periods as well as developing ways of making a group of sows come into heat at the same time," he said.

Cincinnati Feed Club

CINCINNATI, OHIO — An annual Christmas dinner-dance for members of the Cincinnati Feed Club and their wives will be held Dec. 14 in the Union Terminal ballroom. Arrangements for the affair are being handled by the program committee, headed by John Wansik, Commercial Solvents Corp.

Kansas City Poultry Conference Theme Set

CHICAGO—"Design for Decision" is the theme for the program and exhibits at the 1960 Fact Finding Conference to be held in Kansas City Feb. 12-14.

The announcement was made by Harold Williams, president of the Institute of American Poultry Industries, which sponsors the all-industry meeting.

Mr. Williams said a new type of program is planned, with only one session a day. He said emphasis of the program will be shifted from production and processing to more concentration on problems in marketing, management and legislation.

Frank Wollney, who is in charge of the conference program, says many of the speakers will be outstanding men from other industries that have faced and solved the same kind of problems the poultry industry faces today.

Lee Campbell, exhibit manager, says exhibits at the 1960 conference will be more comprehensive than they've ever been—and more pertinent. "Equipment and supply people have become increasingly conscious of what people in our industry need and are looking for. That's what they'll be showing and demonstrating. It's on the exhibit floor that people attending the conference will find the answers to their immediate operating and production problems."

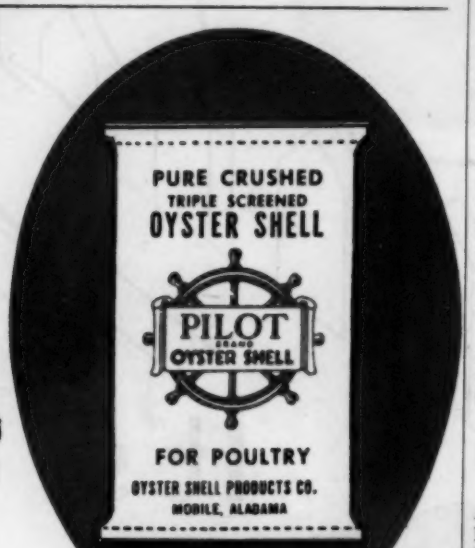
With the exhibitors offering answers to operating problems and speakers concentrating on the overall problems in marketing, management and legislation, the coming conference is designed to give the man facing important decisions about his business a sound basis on which to make them, API officials said.

Information about reservations is available from the Institute of American Poultry Industries, 59 East Madison, Chicago.

Rolfes Installations

BOONE, IOWA — Rolfes Grain Aeration & Electronics Corp. of Boone recently announced the installation of Rolfes equipment at 170 locations in 22 states. The installations were reported as follows: Iowa, 46; Illinois, 36; Nebraska, 16; Missouri, 10; Ohio, 9; Texas, 9; Minnesota, 8; Kansas, 8; North Carolina, 7; Indiana, 5; Michigan, 3; Oklahoma, 2; Virginia, 2, and one each in Arkansas, California, Colorado, Georgia, Kentucky, North Dakota, South Dakota, Washington and Wisconsin.

A POINT TO REMEMBER



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Program Set for Feed Microscopists Meeting

COLLEGE STATION, TEXAS—Tentative plans for the eighth annual meeting of the American Association of Feed Microscopists June 13-15, 1960, at the Hilton Hotel in San Antonio, were announced recently.

E. E. Brown, Texas A&M College, program chairman, said the meeting will be sponsored by the Texas Feed & Grain Assn. and the Texas Agricultural Experiment Station.

The tentative program will include presentation of papers on the following subjects:

"The Role of Microscopy in the Enforcement of Feed Laws," "The Texas Feed Law," "Feed Toxicity," "Microscopic Identification of Antibiotics," "Some Problems Encountered by Feed Manufacturers," "The Use of Microscopy in Quality Control," "Mathematical Calculations for Use as an Aid in Interpreting Chemical and Microscopical Data," "Problems Encountered by the Rendering Industry," "Evaluation of Methods for Drug Analysis," "Standards for Fats and Oils in Feeds," "Systematic Microscopic Identification of Fertilizer Ingredients," "Problems Encountered by Regulatory Inspectors."

The program also will include a workshop where specialists will demonstrate their specialty, flotation, dispersion staining and qualitative and quantitative analysis by use of a microscope.

Membership of the American Association of Feed Microscopists is composed of personnel from the feed industry and from state and federal agencies.

Bemis Sales, Income Show Increases

ST. LOUIS—Sales of Bemis Bro. Bag Co. and subsidiaries for the first nine months of this year totaled $98,382,894, up 11% over 1958. The company's net income of $2,183,639 was 17% higher than the comparable period of last year.

After taxes and preferred dividends earnings a share of the company's common stock were $3.06 compared with $2.63 for the first nine months of 1958.

In the three months ended Sept. 30, 1959, the company's earnings were $1.22 a share of common stock, after taxes and preferred dividends, compared with $1.01 a year ago.

The company also announced that its board of directors declared a quarterly dividend on the company's common stock of 50¢ a share.

Honegger Builds Lab

FORREST, ILL.—A new 30 by 46 ft. haydite block construction research laboratory has been completed here by Honegger Breeder Hatchery. The building is completely air-conditioned.

The laboratory will be used for the expanded research program in immunogenetics, physiology and poultry disease work.

Maryland to Conduct $24,000 Perosis Study

COLLEGE PARK, MD.—A $24,000 study of the biochemical mechanisms involved in perosis, a nutritional disease of chickens and turkeys, characterized by a shortening and thickening of limbs, will be made by the University of Maryland department of poultry, according to a recent announcement.

Supported by the National Institutes of Health, Bethesda, Md., the investigational work will be under the direction of Dr. Richard D. Creek, assistant professor in the department.

The grant represents a portion of basic research into fundamental physical and chemical relationships under intensive study by the National Institutes of Health. The research work at College Park will include, in addition to nutritional investigations, tissue and histological studies under the direction of the poultry specialist.

Dr. Creek completed his doctorate at Purdue University in 1955 where his doctoral thesis was on the subject of manganese and its connection with chick perosis and nutrition. Since joining the staff of the University of Maryland in 1958, he has devoted most of his time to research in broiler and turkey nutrition, including studies on antibiotics, zinc, perosis and unidentified growth factors.

Poultry Farm Plans Testing Expansion

BATAVIA, N.Y.—"An expanded program of field testing to supplement experimental strain crossing" has been announced by Dr. Steven C. King, geneticist at Mount Hope Poultry Farm, Inc.

"This year, field testing will be done with the cooperation of Mount Hope's franchised hatcheries and their customers," he said. Dr. King said he is signing up producers who "are accustomed to accurate record-keeping and have small-pen facilities."

Mount Hope recently completed moving a fully equipped breeding farm from Williamstown, Mass., to Batavia without a single loss, according to Dr. King. The expanded breeding plant covers 3½ acres and will have a capacity of 21,000 breeders with an additional 15,000 layers on out-farms.

Dr. King recently joined Mount Hope. He was national coordinator of the U.S. Department of Agriculture poultry breeding project at Purdue University.

Feed Man Killed

RISON, ARK.—Aubrey W. Turner, 40, owner of the Turner Feed Co. here, was killed recently in an automobile accident at Fordyce, Ark. Mr. Turner, an attorney, was engaged in livestock, poultry and farming operations here. Survivors include his widow, two sons and one daughter.

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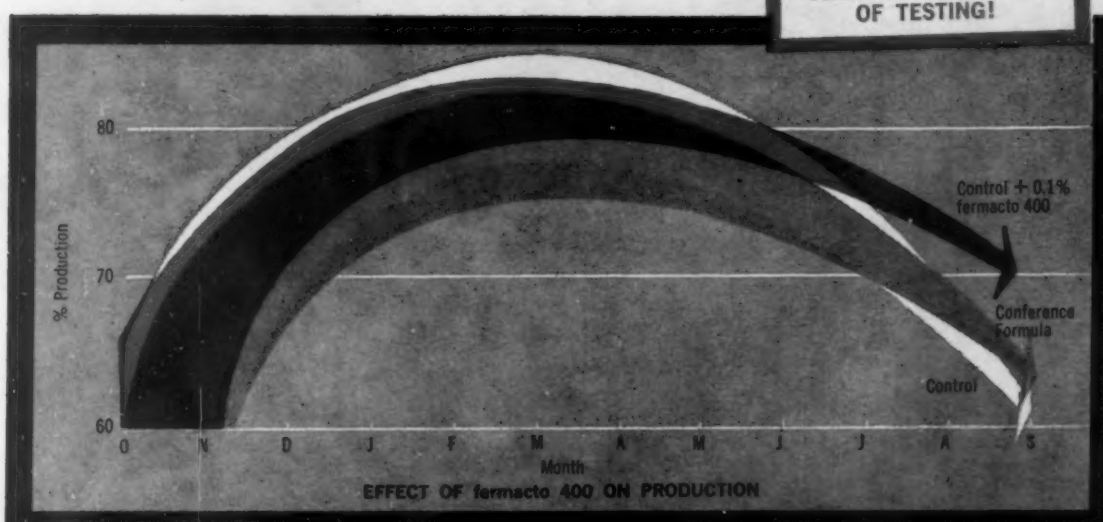
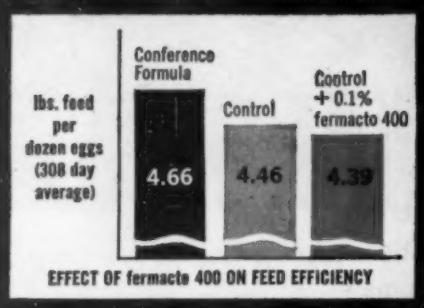
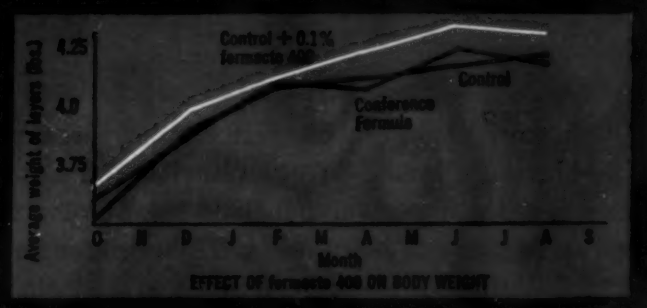
RESULTS FROM BORDEN'S SECOND FULL CYCLE OF TESTING!



EFFECT OF fermacto 400 ON PRODUCTION



EFFECT OF fermacto 400 ON FEED EFFICIENCY



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STABILITY— normal storage conditions— 4 gm premix at average room temperature and humidity

	% Potency Retained		
Avg of 3 lots	**30 Days**	**90 Days**	**120 Days**
New Process Hetrogen K Premix	99%	98%	99%
Ordinary Vitamin K Premix	84%	67%	52%

STABILITY— field samples—ordinary vitamin K premix recently secured from feed mills

	% Potency Retained
Average of 7 lots	23%

(Actual potency of individual lots ranged from 0 to 45%)

STABILITY— adverse storage conditions— accelerated storage conditions 113°F at 80% relative humidity

	% Potency Retained after 30 Days	
Premix Potency	**Old Style Premix**	**New Process Hetrogen K**
16 gm/lb	49	91
8	27	92
4	39	91

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Prices of New Process HETROGEN K premix are competitive with ordinary Vitamin K. There is no extra charge for this improved product. A range of graduated potencies from 4 to 64 grams per pound on easy mixing calcite or edible soymeal carrier are available. Let us tell you more about this superior vitamin K premix. Write or phone for full information on New Process HETROGEN K.

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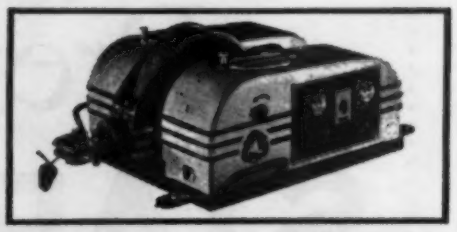
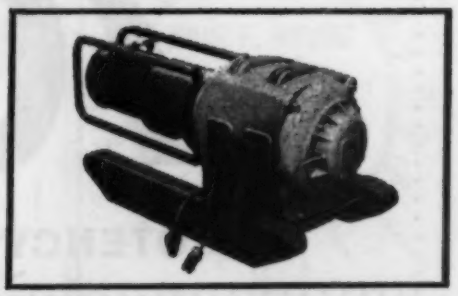
Choice territories available for qualified dealers.

DALLI – Popular standard model. Output – 30 tons of soft feed per hour. Generates a pull up to 1400 pounds. Powered by a 2.5 HP electric motor (220-440 volts) or 5 HP gasoline engine. It weighs 480 lbs.



BULLY – Extra power for heavier jobs and increased efficiency. Output – 40 tons of soft feed per hour. Generates a pull of 2400 pounds. Powered by a 3.5 HP electric motor (220-440 volts) or 8 HP gasoline engine. It weighs 870 lbs.



MOBY – A duplex unit, basically the same as the BULLY model. Output – 80 tons of soft feed per hour. Operates two scoops, each independently controlled by push-button switch. It weighs 946 lbs.

Fuller Co. Enlarges Its Southern Division

CATASAUQUA, PA.—An enlargement of its southern division to "cover new markets and provide increased customer service" was announced here recently by officials of Fuller Co.

William F. Hahn

Under the management of William F. Hahn with headquarters in Birmingham, the expanded territory will include most of Texas, Louisiana and Arkansas and will involve the opening of a new district office in Houston.

The present southern division encompasses Tennessee, Mississippi, Alabama, Georgia, South Carolina, Florida and New Orleans. The increased area also means that Fuller Co. will be able to give closer support on its lines of pneumatic conveying equipment to Power Machinery Co., its representative with headquarters in Tulsa and branch offices in Dallas, Houston and Kansas City, Mo.

Mr. Hahn has been with Fuller Co. for nearly 10 years, the past seven of which have been in the Birmingham office. His first two years with the firm were as sales and service engineer in the Chicago office.

Nevada Range Worst Since 1954 and 1934

RENO, NEVADA—Except for 1954, range feed conditions are the worst for this time of year since the drouth year of 1934, according to the latest Nevada Weather, Crops and Livestock Report issued by the U.S. Department of Agriculture, U.S. Department of Commerce and Nevada Extension Service.

Hay production in 1959 was about 90% of normal for alfalfa hay and only 30% of normal for wild and clover-timothy hay. A large amount of hay has been hauled into the state from Idaho.

Range cattle and sheep operators have been anticipating this coming winter's low feed supplies for several months. Most have culled heavily and marketed poorer breeding stock and much young stock to cut their winter numbers down as low as possible.

Cattlemen who haven't cut down on their stock have bought hay to carry them through if they didn't have adequate carryover feed supplies, the report indicated.

Calves, lambs and breeding stock are thin this fall in most areas but in fairly good condition except for light weight.

Major cattle feeders in the Lovelock, Fallon and Yerington areas may feed about the same number as a year ago, but smaller feeders will evidenty be feeding fewer head than last year.

Economist Sees Good Year for Lamb Feeders

URBANA, ILL.—This could be a good year for lamb feeders, with costs of feeder lambs $3-4 cwt. lower recently than they were a year ago, according to Prof. L. H. Simerl, economist, University of Illinois.

Prof. Simerl said recently that this year's lamb crop was only about 2% larger than in 1958, just about enough to match the growth in population.

Slaughter of lambs has been heavy in recent weeks, and the more that are slaughtered this fall, the fewer there will be for market next winter, he said. Also, the average price rise from fall to winter is about 5%.

Most of the increase in the lamb crop this year was in Texas, which produces about one seventh of the U.S. total. Texas reports 10% more lambs saved this year than in 1958.

Prof. Simerl said slaughter of sheep and lambs (mostly lambs) during August, September and October was 10% greater than a year earlier.

Receipts of feeder lambs in nine north central states totaled 1,210,000 head in July to September, 2% more than a year ago.

Colorado Elevator Damaged in Fire

ROGGEN, COLO.—Fire virtually destroyed a farmers' cooperative grain elevator here recently, causing an estimated $200,000 in damages.

Fred W. Seelhoff, manager of the Roggen Farmers Elevator Assn., said 30,000 tons of barley, oats and corn and 75 tons of sacked feed were lost in the fire.

Firemen said the fire gutted the grain elevator and for a while threatened to explode some 30 tons of highly inflammable ammonium nitrate.

Damaged by the blaze were the elevator building, offices and an adjoining warehouse.

There were no injuries reported.

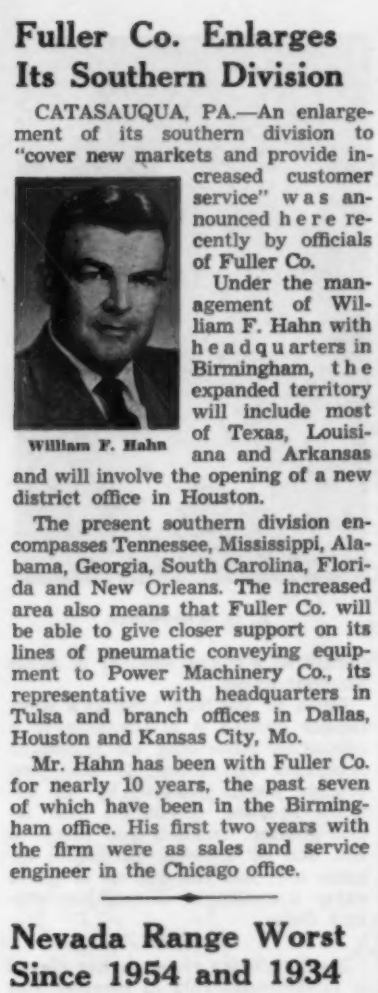
Cause of the fire has not been determined.

C. Harrington Heads Iowa Portable Mill Co.

OELWEIN, IOWA—Iowa Portable Mill Co. recently announced the appointment of Clare Harrington as general manager. He takes over the management position from his deceased father, Regis Harrington, formerly president of the firm, who was killed recently in an auto accident.

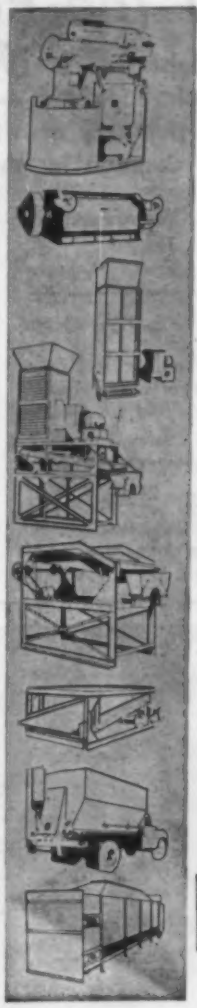
Clare Harrington has been active in the business the past few years. He announced there would be no change in company policies.

Iowa Portable Mill Co. manufactures portable mills and milling equipment.



GIVE HIM ADVICE HE'LL APPRECIATE

Remind him to order Morton T-M Salt. See page 27.



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Farm Programs and the Feed Industry

"Today's federal farm legislation is to the feed business — and to the whole economy — a harmful system that has restricted industry growth to date and threatens continuing damage in the future."

By Robert C. Woodworth
Cargill, Inc.

You may find it odd that I should discuss the effects of federal farm legislation on the feed business, and that I should conclude that most of the effects are undesirable, at a time when business has never been so good.

After all, annual nationwide feed sales have soared 48% since 1950, from 27 to 40 million tons. Formulas are better than ever and production efficiency continues its seemingly inexorable climb upward. The industry is possessed everywhere of the rosy glow of success.

EDITOR'S NOTE: The accompanying article is from a talk at a Northwest Feed Manufacturers Assn. meeting in Minneapolis. Mr. Woodworth is vice president of Cargill, Inc., Minneapolis.

Some of you might say, "If there is an effect of farm legislation on the feed business, then let's have more of it. We're booming. We're the ninth largest industry in the country. What's to complain?"

Granted. Yet I insist that today's federal farm legislation is to the feed business—and indeed to the whole economy—a harmful system that has restricted your growth to date and threatens you with continuing damage in the future.

Lest you conclude that I merely want to grind my own axe in someone else's workshop, let me assure you my concern for your future is real, for as your industry prospers, so does Cargill as a major supplier of grain for your mixes.

R. C. Woodworth

Much of the feed industry's spectacular growth is attributable to a revolution influencing all phases of American agriculture. It has been brought about primarily by our nation's booming population with its ever-greater demands for more to eat, and by a rising per-capita income that has enabled all of us to enjoy increasingly choice, high-protein diets.

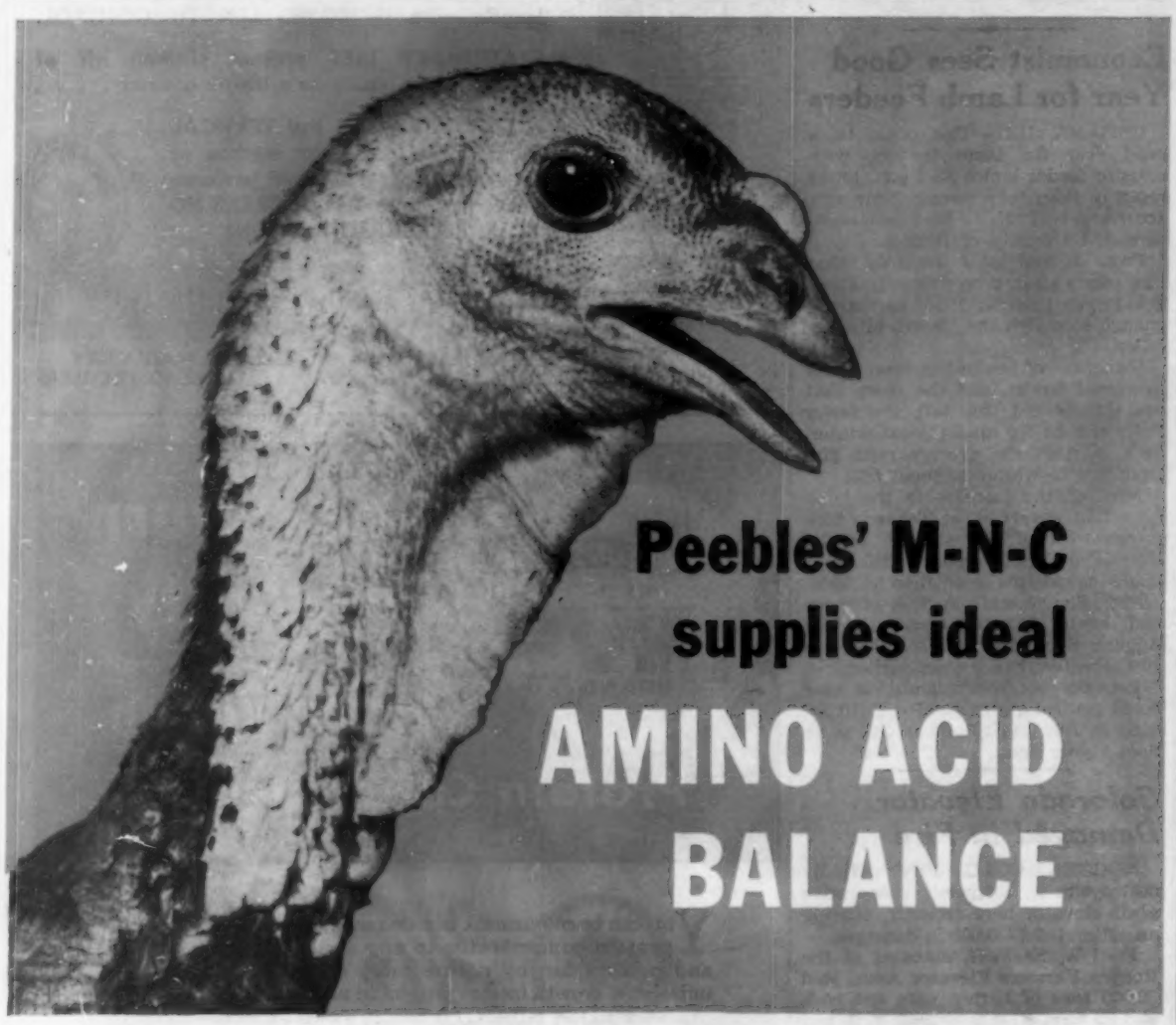
Research

Feed industry research has played a fundamental role in meeting this new demand. For instance:

In 1930 it required 15 lb. of feed and 15 weeks of feeding to produce a 3 lb. broiler, while today, 7 lb. will raise the same bird in less than nine weeks under farm conditions, and 5½ lb. will do the job in less than eight weeks at Cargill's research farm. In the '30's we got only 77 eggs from a 50-lb. bag of feed, but now a 50-lb. bag will yield 145 eggs, and soon will be giving us 160. The conversion ratio for turkeys has improved from 6½ lb. of feed per pound of bird to 4 lb. of feed per pound, and growth time for a 20-lb. turkey has been reduced from 34 weeks to 23. The same story can be told in every branch of animal agriculture.

There has been, at the same time, a dramatic parallel in grain production.

I recently examined and made notes on the record of corn acreage and production since 1930. What has happened never fails to amaze me. In 29 years corn acreage has declined more than 25%, but the production of corn has climbed from 2 billion bushels to almost 4.5 billion. In terms of bushels per acre this means a rise of considerably more than 100%. In the same period soybean crops have leaped from 14 million bushels to 530 million, and yield per acre has climbed from 13 bu. to more than 23. Wheat, oats and other crops have



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In addition, M-N-C is concentrated to give you, pound for pound, 50% more non-lactose nutrients. Just 2½% M-N-C supplies the same amount of Whey factor and other growth-promoting elements as 4% whole dried whey.

Peebles' exclusive spray-dried process assures uniform high quality. M-N-C's smooth, even texture provides uniform color and even distribution in mixed feeds.

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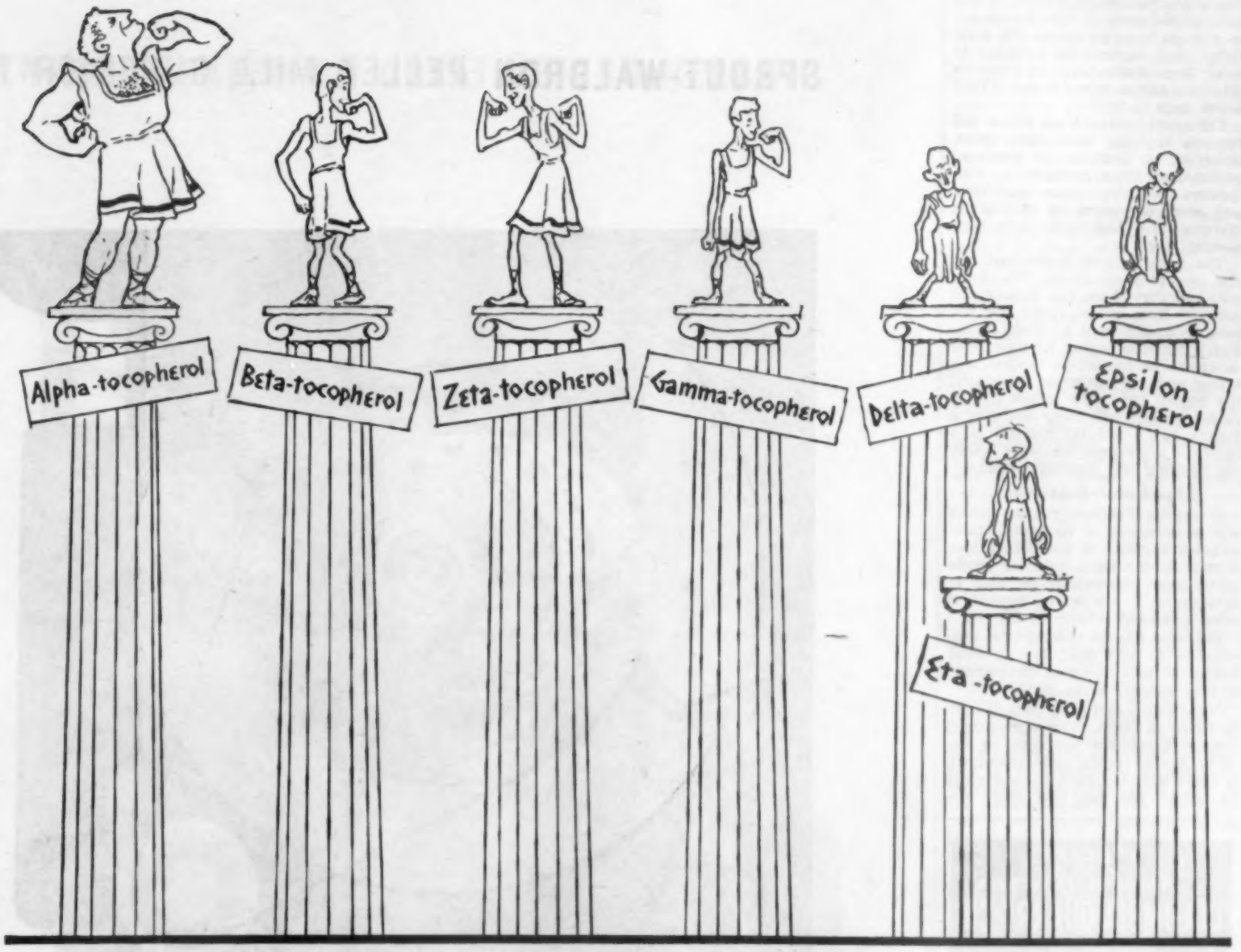

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also climbed, both in total production and in yield.

Consequently, today's farmer is feeding nearly 21 people as compared to the 1940 farmer feeding less than 11 and the 1820 farmer feeding only 4 consumers.

Farming as I knew it in my youth, and as many of you knew it, is gone.

"Agri-business"

The agriculture that once was a "way of life" has become a business, and a large business, at that. The word "agri-business" is now commonly used to describe it. Emphasis is on peak production per man-hour and per dollar invested. Use is made of larger and better organized units of land that are fully mechanized and can make money at low market prices and at rock-bottom costs. Agri-businessmen, frequently important users of borrowed capital, are among the banking community's best and most valued customers.

Farmers who once prided themselves in the art of sharpening a sickle or splicing a rope now ponder financial statements, soak up facts about capital gains and figure long and hard on how to minimize their tax bite.

The family farm is still very much with us, but it is getting bigger. In Minnesota the average farm, which covered 183 acres in 1946, has grown in a dozen years to occupy 205 acres today. And, because the land had to come from somewhere, the state's total number of farms is now 15,000 fewer than in 1946.

The trend toward fewer farms and farmers is being more than offset, however, by increases in livestock, poultry and grain productivity, with farmers becoming more specialized and more dependent on mechanical systems and techniques with each passing day.

The trend is well established and the examples are many. The farm wife's poultry flock has disappeared entirely from many farms, or has been expanded from a "flock" to an 8-or-10,000-bird laying house with automatic equipment for feeding, watering and egg gathering. Similarly, the family farm that makes hogs a major project will raise not just a penful, but 1-to-3,000 animals in a carefully engineered low-labor breeding, housing and growing system.

Specialized Production

I feel most strongly that aiding this development of complete, start-to-finish systems of specialized production is the most valuable single contribution presently being made to agriculture. I can assure you it is being given top priority by Cargill.

But what has the federal farm program to do with this? And to what extent is that program destructive of feed industry progress?

Some well-intentioned persons may be heard to claim, "Our agricultural support legislation has been on the books for 20 years, and agriculture is doing well, so the programs must be right." The fact that other circumstances account for agriculture's prosperity—circumstances that have included World War II and a major "police action" in Korea, and that have required all the food and fibre we could muster, plus the further circumstance that until the early '50's the farm plan had never been really tested—all are conveniently overlooked.

It's interesting, however, that despite these spurious claims of success, virtually everyone in the U.S., regardless of political party or personal claim to liberalism or conservatism, refers to the present day program and its consequences not as the "farm plan" but as the "farm problem."

Supports

It has become increasingly apparent, for example:

- That support prices for crops, especially grains, though assuring a so-called "parity" level of income to those who raise them, provide farmers with the strongest possible incentives to produce more and more of products already in surplus, and thus assure ever-increasing, rather than ever-declining, surpluses for the future.
- That these same supports, by holding prices of U.S. grains higher than world market prices, make exports possible only when exporters—like my own firm—are subsidized by the government for the difference between what they must pay for supplies in the domestic market and what they must receive for them from overseas buyers.
- That support payments, as they are presently distributed, miss completely the original objectives of the Agricultural Adjustment Act, namely the rendering of assistance to an economically handicapped segment of our society. On the contrary, payments are made most liberally to those who need them least, and fail almost entirely to reach those who need them most. Our large commercial farmers, who comprise only 27% of the total farm population, receive something in excess of 79% of all support payments; our midde commercials, accounting for about 17% of farmers, receive slightly more than 12% of support benefits; and the truly needy group, called by census takers "rural residents and small or part-time farmers" and making up 56% of those on farms, receive less than 7% of the outlay for supports.
- That surplus stockpiles, taken over by government through loan foreclosures under the support program, show no sign whatever of growing smaller, but on the contrary are almost certain to increase as farmers continue to use higher-production seeds, higher-speed machinery and higher-powered fertilizers in their all-out effort to produce for a market that is not a true market, but instead is a publicly maintained reservoir into which any amount of produce can be poured at a guaranteed high price.
- That the mere cost of storing

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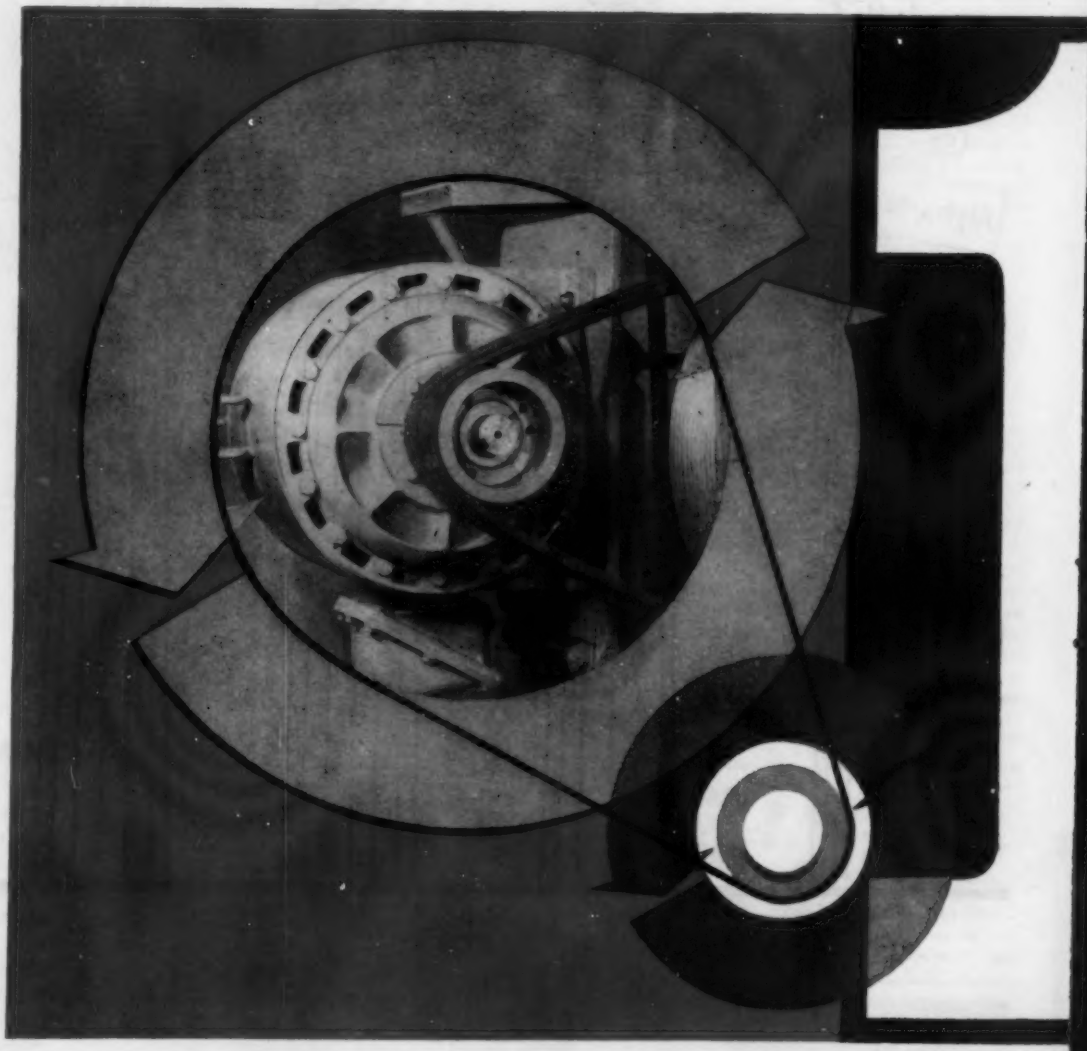

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JB/113 P

those commodities, even though the lowest possible storage prices are negotiated by government and the most efficient and well-managed facilities are provided by private warehousemen, this cost is becomig so large—something in excess of 1.5 million dollars a day at the moment —as to shock profoundly every citizen and every taxpayer.

● That the total cost of the farm program—that is, of payments to farmers, storage charges, subsidization of exports, interest on money tied up in government stockpile ownership, etc.—is now second only to defense expenditures in its drain on the national budget.

A "Fiasco"

I submit that all this adds up to only one thing: that the present farm program is not just a flop, but a fiasco.

I submit, also, that the nation is fast becoming aware of this failure; that the majority of farmers are already aware of it; that not only the Republicans, but also the Democrats, are all too aware of it; that it must and will be scrapped, and that both parties, no matter what they may say in public, are trying to rid themselves of it before the whole country rises up and votes it and its authors out of political existence.

Getting rid of it, however, is no easy matter. The present Republican effort, made up on the one hand of complete disavowal of the farm plan, and on the other of the need to administer and justify that very plan, is a most unhappy compromise. Any approach that might be undertaken in the future by the Democrats would also be a compromise, made up of professions of the party's belief in the program and all it stands for, but with every effort made, behind the scenes, to get out from under.

What course ultimately will be taken, and how many years and how many billions of dollars will be expended, before the farm program is no more, I do not know. I believe that in the end it will be admitted to have been an ill-advised experiment, an example of government participation beyond its competence, a result of excessive enthusiasm in a very enthusiastic period of our history. Its passing, when it comes, will not reflect on those undertakings of the same period that have proved workable and invaluable to us all. It will merely prove that no revolution can bring Utopia overnight, and that failure invariably accompanies success as progress is achieved.

Future

What kinds of programs, what false starts and rationalization and camouflage, lie between us now and the eventual abandonment of the farm program, no one can say. However, the situation which will and must emerge can be foreseen, if only in general terms. It has been described in another connection by Cargill's board chairman, John MacMillan, Jr., and I can do no better than to recapitulate his main points. When the day arrives:

● We will have drawn a clear distinction, in our consideration of farm matters, between the economic realities of production and the social needs of underprivileged farm people.

● We will have instituted programs of direct and specific aid for the economically marginal farmers that will entail, almost certainly, expansion of the present small-scale Rural Development Program or some similar program; will probably invoke tax incentives to induce industry into the countryside, and will possibly include special educational or technical training for those farmers and their families needing new and more rewarding economic opportunities.

● We will have recognized that government help to these people, or to people requiring help in any part of our society, must be calculated always as emergency help, to be withdrawn as quickly as the emergency passes and the persons concerned are able adequately to make their own ways.

● We will have differentiated, in our statistical descriptions of American agriculture, between the inefficient, low-yielding production that drags down national averages, and the amazingly efficient, high-yielding production that is truly significant. We then will think, for example, not in terms of an average corn yield of 52 bu. per acre, as we do today, but of that commercial production, already commonplace, that yields from 100 to 120 to 150 bu. In wheat, we will not refer to a 27-bu. per acre average presently quoted, but to the 60-70 per acre yields being turned out by large-scale raisers.

● We will have recognized that a similar fallacious use of averages now results in wheat supported at $1.80 bu. while highly mechanized Midwestern wheat growers are in fact raising the commodity at 60¢ or so of real cost, and that corn and other supported crops are being raised by the efficient at equally great margins.

● We will have decided, having made realistic human provision for the well-being and improvement of our poor farmers and of those others who are either unable or unwilling to convert to truly efficient operations, to release the government's hold on grain and other commodity prices, and then to let those prices seek a level consistent with the actual cost of raising them and competitive with the same commodities raised elsewhere in the world.

Mr. MacMillan's outline of the future of agriculture, an outline to which I also subscribe, will by no means result in throwing the farmer to the wolves. On the contrary, it will remove from our poor farmers a poverty-inducing situation that has plagued them, unnoticed by the rest of us, since well before the depression years; it will bring an end to an enormous and unnecessary drain on the pocketbooks of our taxpayers, and it will allow a progressive, enlightened and efficient agriculture to go about its proper business of feeding, at ever lower costs, not only our own people, but the hungry of the world.

When this new agriculture arrives, this agriculture freed of costly supports, of subsidies, of misleading averages and of "parity" — as ill-

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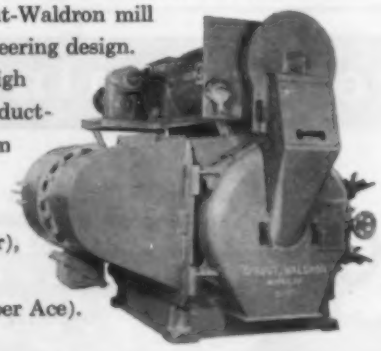

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conceived a term as ever was—I suggest that it will aso be freed of surpluses, of publicly paid storage costs, of concern about availability of export markets, of friction with our international neighbors over charges of "dumping," and of a dozen other ills that presently afflict us. Nor will this be accomplished at the expense of present production totals. On the contrary, I believe that when our selling prices are realistically related to our most efficient production costs, we will find overseas and domestic markets that today we cannot conceive of. At realistic prices, we will truly and tremendously compete with the rest of the world.

Foreign Trade

You may question the desirability of becoming the world's largest food supplier. But if overseas nations, presently producing grains and other commodities for their own use and for world sale, find it cheaper to buy our production than to continue uneconomically with their own, have they not been battered by it? Can they not spend what they have thereby saved on increased industrialization, expanded education or some other thing of value? Can they not profitably relinquish their share of world grain markets and seek a larger share of markets for some other product?

Or if a nation now importing a handful of our farm production at present high prices is able to double or triple its imports for the same expenditure of dollars, is that not good? Or if another, now importing large quantities of grain for human consumption, finds itself able to convert even more grain, at lower cost, to the feeding of animals, and thus to upgrade its national diet with meat, milk, eggs and other proteins instead of continuing its present dependence on cereals, is that not beneficial?

"Meat Basket"

I say that the U.S.,and the U.S. farmer, will not be the worse for the end of the farm program. For we are the most efficient producers in the world, and in a worldwide, free and competitive market we will become more efficient still. This country can and will become the bread basket—and the meat basket—of the world.

I think too that agri-businessmen—the customers on whom we will depend—will prosper as never before. And I predict their prosperity will reflect itself in an enormously increased demand for high-efficiency formula feeds.

This consideration alone should compel your close attention to government farm programs and your participation in the fight to have them repealed.

Also worthy of some attention is a possible "bonus" which might arise from realistic agricultural legislation, and which might well benefit the feed industry.

New Market

I have in mind the host of growing livestock and poultry production industries overseas, particularly in Europe and in Latin America, that could constitute a new market for your product.

Farmers there are fast learning techniques for producing quantities of high-quality meats. Hand-in-hand with their new-found knowledge is coming an increase in demand for formula feeds. Astute businessmen there are already recognizing the desirability of investing in commercial feed plants.

But U.S. feed companies, who normally might regard this progress as a gem of a sales opportunity, must merely stand and watch, for the artificially high domestic cost of grain ingredients prevents you from even considering exports as a new market. Meanwhile, your overseas competitors buy at lower world prices and thus gain what might become an insurmountable edge.

With removal of federal supports, however, the outlook could change considerably. Domestic grain prices, competing for world markets, would become as favorable here as overseas. Then your industry, already possessing a long lead in know-how and ingenuity, might really have an opportunity to show the world where meat, milk and eggs come from.

Time, however, is not on our side. The longer corrective action is delayed, the better entrenched will become your competitors abroad. Before too long they will have closed the gap and your potential export market will have become only the memory of an idea, unexplored because of outrageous legislation.

Unfortunately, I am not prepared to guess how many years or how many programs—or how many reversals and set-backs—will be required before a truly free agriculture emerges. I believe it will come. In fact, I believe its coming is absolutely inevitable. I do believe, and ardently, that the course of history is toward freedom, both political and economic, for every man and every people.

As this freedom increases, and as a more efficient agriculture evolves, we who are on or near the farm will find ourselves possessed of one of the world's most potent "secret weapons." I do not disparage the present need for hydrogen bombs and moon rockets, or the need for increased research and development to hold our own in the international power struggle. But I do not believe these things will ever prove our society is more desirable than others, nor will they convince the uncommitted nations of the world that a free economy is the best economy. Our production of food and goods, however—a task to which all of us are dedicated—and the standard of living it brings us and may bring the world, is a difficult argument to refute.

Agriculture—and I mean a healthy, productive and self-supporting agriculture—is needed today as never before. Our business—unhampered and unburdened of government—has its work cut out for it.

More Feed Grains Will Be Sold to Poland

WASHINGTON—The U.S. Department of Agriculture has announced a supplemental agreement with Poland providing for the sale to that country of an additional $11.8 million worth of feed grains under Title I of Public Law 480. The dollar figure includes certain ocean transportation costs.

This supplements an agreement with Poland announced June 10 providing for the sale of $44 million worth of surplus agricultural commodities.

Details of purchase authorizations to be issued under the supplemental agreement will be announced later. Sales will be made by U.S. private traders, and payment will be in Polish zlotys.

Feed Chemist Lauded

SALEM, ORE.—"Outstanding recognition" for James Launer's work as feed chemist for the Oregon Department of Agriculture is contained in a report at the recent Association of American Feed Control Officials meeting at Washington, D.C.

"Through Launer's work, the Oregon laboratory rates No. 1 among the states in accuracy of analytical work on feeds," the report says. This rating is based on five continuous years of collaborative work with the national check sample work.

More Efficient Sheep Parasite Control Seen

AMES, IOWA—"New and improved chemicals promise more efficient control of internal parasites of sheep," Dr. Fred C. Neal of Iowa State University Veterinary Clinic said recently at the All-Iowa Sheep Day here.

The most important development in recent years is the discovery that small, particle-size phenothiazine is effective against the small stomach worm of sheep, Dr. Neal added. Ordinary phenothiazine is effective against the large stomach worm, he noted, but removes only about 10% of the small stomach worms.

Where phenothiazine suspensions are prepared from powders that have been ground to very small particle size—less than 25 microns—the efficiency increases to about 90% against the small stomach worms and retains all its efficiency in removal of the large stomach worms, he said.

More than half of the particles must be less than 25 microns—that is less than one-thousandth of an inch—for this phenothiazine to have this added effect, Dr. Neal stated.

"It is impossible to recognize the particle size on appearance of the drench," Dr. Neal warns. "The label on the container will indicate the particle size where special care has been given in the manufacture of this superior product."

An important new drug soon will be available for the control of sheep bots, also called grub-in-the-head, he said. This parasite is common in Iowa and is responsible for most of the nasal discharge seen in sheep, said Dr. Neal. In addition to the irritation caused by the adult fly, the larvae in the nostrils and sinuses produce irritation that predisposes the sheep to respiratory infections. No effective treatment had been discovered until recently, he said. One of the organic phosphate parasiticides, "Dimethoate," has proved effective in removal of 97% of all the sheep bots after oral or intramuscular administration, Dr. Neal pointed out.

"However," Dr. Neal said, "parasite control is, first of all, a sanitation project. Many chemicals, both old and new, are of value only when they are used in connection with proper management. Unsanitary conditions, such as inadequate pasture rotation," he warned, "tend to undo the work of chemical treatment."

With parasites causing an estimated $27 million loss in sheep each year in the U.S., Dr. Neal said, parasite control programs can pay Iowans well.

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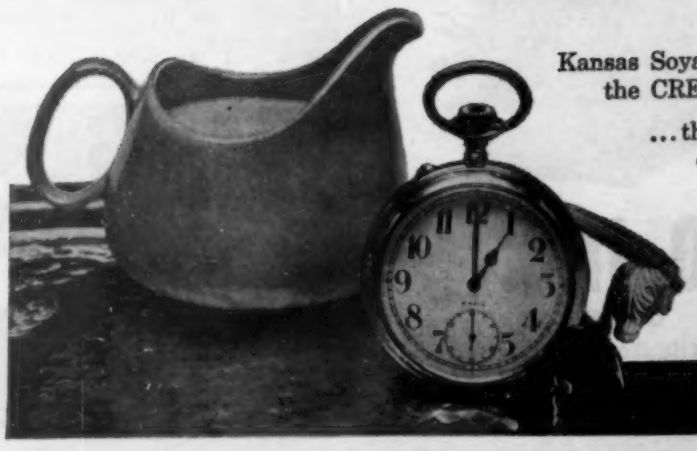

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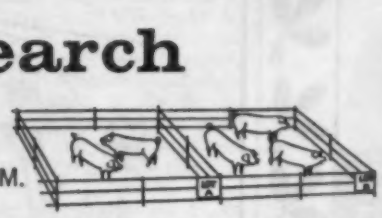
Broiler Pigmentation as Influenced by Dietary Modifications

● R. G. Ratcliff, E. J. Day and J. E. Hill, Mississippi Agricultural Experiment Station; Poultry Science, Vol. 38, No. 5, September, 1959, pp. 1039-1048.

ABSTRACT

For a number of years the workers at this station have been conducting a series of experiments concerning pigmentation in broilers using various diets which have included different natural sources and/or commercial pigmenters, additives, etc. (See also this column, Feedstuffs, Jan. 14, 1959, pp. 42-44.)

This latest report of four trials involving a total of 1,090 broiler chicks kept in batteries sheds further light on certain factors affecting pigmentation.

In preliminary work it was determined by the method of Day, et al., (1958) that averages of 20 analyses revealed the following xanthophyll values in terms of xanthophyll per pound for the experimental ingredients used in trials 1 and 2: Yellow corn, 6.7; corn gluten meal, 82.2; 17% alfalfa meal, 253, and 20% alfalfa meal, 260. In trials 3 and 4 these values were used as an aid in calculating the xanthophyll content of the rations used.

Trial 1

In trial 1 each of these pigmenting sources was then tested in a ration so that they provided comparable xanthophyll levels of approximately 4 mg. per pound. The relative biological values of xanthophyll from yellow corn, corn gluten meal and 17% and 20% dehydrated alfalfa meals were found to be approximately as follows, based on the assumption that the xanthophyll of yellow corn was completely utilized for pigmentation: Yellow corn, 100%; corn gluten meal, 49.8%; 17% alfalfa meal, 24.3%, and 20% alfalfa meal, 26.3%.

It is also quite interesting to note that the degree of pigmentation produced by the master control ration (containing 60% corn meal, 2% corn gluten meal and 1% of 20% protein alfalfa meal, and averaging approximately 8.2 mg. per pound of xanthophyll) was no greater than for the ration containing a 4 mg. per pound level of xanthophyll obtained solely from the 60% level of yellow corn.

Trial 2

In trial 2, using similar procedures, the relative biological values of yellow corn meal, corn gluten meal and 20% alfalfa meal were evaluated further. Again, assuming that yellow corn xanthophyll was 100% efficient, the relative biological values of effectiveness of pigmentation were: Yellow corn, 100%; corn gluten meal, 43.2%, and 20% protein alfalfa meal, 35.1%.

It should be noted that in both trials 1 and 2, corn gluten meal produced better pigmentation than alfalfa meal, but this difference was not statistically significant in trial 2. Also, modification of the basal ration to include a 10.3% level of corn gluten meal or a 6.1% level of 20% protein alfalfa meal failed to produce pigmentation equivalent to that produced by 60% yellow corn as calculated from the previous biological values of xanthophyll obtained in trial 2.

By combining the data from both trials, the biological values were: 100% yellow corn, 46.5% corn gluten meal and 30.7% for 20% protein alfalfa meal. It is wise to point out, however, that some degree of caution is necessary in interpreting these figures since this method of determining xanthophyll content is not too accurate. It is suggested that the relatively high biological values for the xanthophyll of yellow corn as found in this study may be either a reflection of the method of analysis for xanthophyll producing low results, or else that the xanthophylls present in corn are somewhat different from those found in alfalfa meal or corn gluten meal. Evidence from the literature would tend to cast doubt on the last mentioned supposition.

Trial 3

Trial 3 was conducted to evaluate the effects of different calorie to protein ratios varying from 35 to 60, additions of 4% fat and additions of 2% lecithin (Alcolec-S) as affecting pigmentation of broilers during the six to nine week period in the presence of 2% alfalfa meal. The birds were fed during the first six weeks on a basal ration containing little pigmenting ingredients based largely on white corn, soybean oil meal, fish meal, dried whey and wheat middlings.

No significant differences were observed due to the various treatments, and no consistent trend could be discerned as to the most desirable C/P ratio for carotenoid utilization with or without the additives tested. However, it should be noted that the efficiency of xanthophyll utilization

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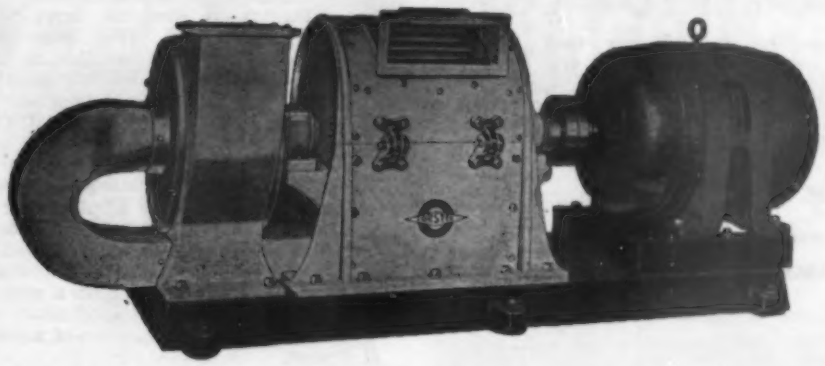

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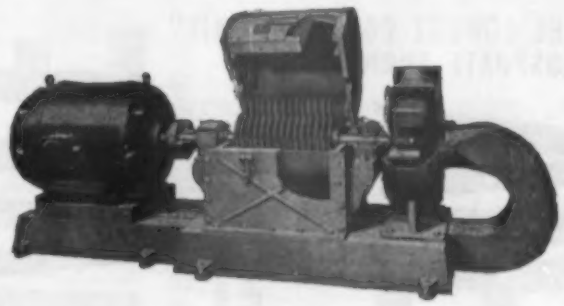

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was less in all instances when the C/P ratio was below 40.

This result does not agree with previous research (1958) from this station which reported that a C/P ratio of 50 was significantly superior for pigmentation effect than one of 42 for the finishing period (7-9 weeks).

Although neither the addition of fat or lecithin significantly improved the pigmentation, it is interesting to observe that in trials 3 and 4 diets with lecithin were significantly better in pigmentation than those containing fat, but were without a concurrent improvement in xanthophyll absorption and/or utilization of xanthophyll.

Trial 4

Trial 4 evaluated the effect of several additives to the control ration using yellow corn meal. The following were tested individually in the presence of 2% alfalfa meal: 0.05% 3-nitro-phenyl arsonic acid for either six to eight weeks, or none to eight weeks; 2% lecithin, and .15% pigmenter (Gallicol). With the exception of lecithin, and 3-nitro for 0-8 weeks, all additives were also tested in the absence of alfalfa meal by modifying the yellow corn basal.

Although the commercial pigmenter contained a relatively high level of xanthophyll (133.6 mg. per pound), no significant effect on carotenoid deposition was noted by its use. The data were interpreted to mean that the xanthophyll in this particular product was inactive for pigmentation.

No significant effect was observed by the addition of 3-nitro-phenyl arsonic acid to the rations, although a very slight improvement was noted in two out of the three diets.

COMMENT

We need more information of this nature since pigmentation is a critical factor in many markets, whether we like it or not! It is especially interesting to note the relative lack of response secured with both 3-nitro and the commercial pigmenter. Other workers have secured improved pigmentation under field conditions with both of these products in certain instances (1956, 1958). It is possible that responses may be secured under field conditions when they might not be secured under experimental environments due to differences in stress, management, and disease exposures.

Personally, I have been quite distressed at times over the poor results secured from "pigmenters" either from natural ingredients or artificial sources. This is a good area for some real fertile research work.

●

Timely and Worth Noting

It has been pointed out in this column just recently that cattle and sheep consuming oat forage, oat straw, oat hay and other roughages are often affected by nitrate poisoning. However, reports of poisoning in other animals are extremely rare in veterinary literature to date.

Now comes a field observation by Dr. Smith et al. (Veterinary Medicine, Vol. 54, No. 12, November, 1959, pp. 547-550) of such poisoning in two different herds of swine.

Generally, the conditions predispos-

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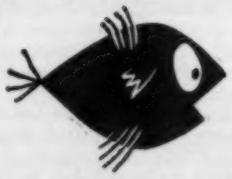

FEEDSTUFFS

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ing to the development of the condition were observed during winter immediately after snowfall or under thawing conditions. The pigs became wet, thus dampening the oat and/or wheat straw used for bedding. The animals ate considerable amounts of the dampened litter as observed from the post mortem. Mortality and symptoms were observed approximately three to four days after storm or thaw. Removal of wet straw stopped all losses.

It is known that nitrate poisoning may occur within several days after hay or straw has become moistened by rain, snow, or excessive dampness. Reduction of the excess nitrate in such forages to nitrite is thought to be facilitated by this moisture and contributes largely tc the symptoms of toxicity observed.

There is a distinct possibility that many such cases have been seen in the field in the past, but they went unrecognized or else were not reported. Since feed and feedmen are often blamed when mysterious deaths of sudden nature from unexplained causes occur, and also since weather at this time of year is apt to be conducive to the development of ideal conditions of wet litter, etc., this is good information to stow away in your trouble shooting bag!

Poultrymen to Discuss Problems in New York

NEW YORK—Some of the poultry industry's toughest problems will get a going-over by the experts at a "Quickie" convention at the Hotel New Yorker in New York City Dec. 3-4.

Sponsors of the event are the Northeastern Poultry Producers Council and the American Poultry and Hatchery Federation. The meeting marks a revival of the council's allied industry conferences.

Kicking off the two-day program is a panel discussion on "Who Makes Egg Prices," featuring Gordon Urner of Urner-Barry Co.; B. B. Gehgan, manager of the Northeastern Poultry Cooperative Assn., and Dr. Norris Pritchard, U.S. Department of Agriculture marketing research expert.

Leading off the afternoon will be a talk on "Changing Patterns in Food Marketing," by Frank M. Atchley of the Grocery Manufacturers of America. Hendrik Wentink, sales expert, will discuss "Don't Nobody Pay Cash Anymore?" Rounding off the program will be the USDA statistician, Edward Karpoff, outlining the 1960 outlook.

Friday, the conference will hear Dr. George W. Luke of Rutgers University, speak on "Adjusting Northeastern Production Targets." Two geneticists—Drs. Steven King and Edward F. Godfrey—will sift what can be expected today in laying flock performance, while the final presentation deals with "What Makes Farmers Tick?" discussed by Drs. Joseph Bohlen and George Beal of Iowa State University.

Copies of the complete program are available by writing to the Neppco office.

$5,000 Grant Renewed

ST. JOSEPH, MO.—Renewal by Dannen Mills of a $5,000 grant for soybean research to the agricultural experiment station of the University of Missouri was announced by Dwight L. Dannen, president of the St. Joseph feed milling and soybean processing concern, and J. Ross Fleetwood, extension specialist of the University of Missouri. Under the agreement Dannen will contribute $1,000 per year toward the research program. The St. Joseph company began its assistance on the long range soybean study in 1954. Each year it has contributed $1,000 toward the study.

W. C. Krueger Retires

ST. LOUIS—William C. Krueger has retired from the bag department of the Ralston Purina Co., St. Louis, after more than 42 years of service with the firm, it was announced by Eldred A. Cayce, purchasing vice president. Mr. Krueger spent most of the time he was with Ralston Purina developing and purchasing containers for the firm's packaging program. Replacing him as manager of the bag department is John J. Skapik, who will be assisted by Kenneth W. Gnuse.

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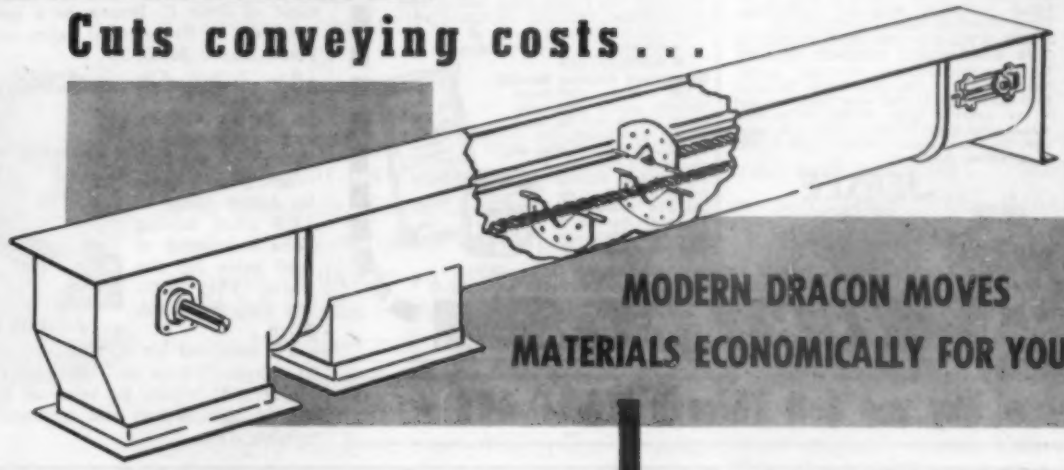

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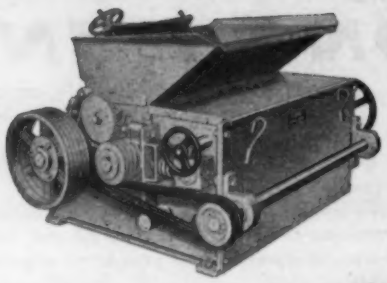

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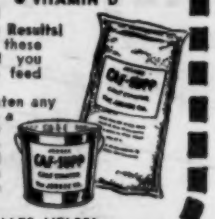

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Economist Discusses How Age, Weight Of Marketing Affect Broiler Profits

NEWARK, DEL—A discussion of "Age and Weight of Marketing Affect Broiler Profits" was presented recently in a technical bulletin by R. C. Smith, associate professor of agricultural economics, University of Delaware.

Mr. Smith said the average weight for marketing broilers for the country as a whole has increased over the last five years. In Delaware, he said, the average live weight of broilers marketed was 3.10 lb. in 1955 and 3.5 lb. in 1958.

"Cockerels are more efficient than pullets in converting feed into meat during the usual production period," he said. "Pullets should be marketed about one week earlier than cockerels if a grower is attempting to maximize returns on each flock. Under a system of continuous production both should be marketed at about the same age."

Mr. Smith said maximum returns above feed costs for each flock usually do not add up to the highest returns above costs under a system of continuous production. "If individual lots of broilers are sold somewhat short of maximum returns above feed costs, the greater number of lots per year compensates for the reduction taken on each flock.

"With feed at $90 per ton and broiler prices ranging from 15 to 23¢ lb.," he said, "yearly returns will be greatest if straight run broiler flocks are marketed at an average weight of about 4.1 lb." He said cockerel flocks should be marketed at average weights of 4.9-5.6 lb. and pullet flocks at 3.6 lb.

"As feed cost decreases or market price increases," he said, "broilers should be marketed at heavier weights. This analysis assumes the market will absorb heavy broilers with little or no price discount. If price discounts are encountered, a grower may find it profitable to sell his flocks at less than the suggested weights."

He went on to say, "Growers can afford to pay premiums to obtain cockerel chicks because at the weights normally encountered in growing broilers, cockerels are more efficient than pullets at converting feed into meat."

J. C. Brown Joins Allied Mills Sales Staff

INDIANAPOLIS — The appointment of John C. Brown as a special assistant in the central sales region for Allied Mills, Inc., was announced recently by E. D. Griffin, vice president in charge of sales.

J. C. Brown

Mr. Brown came to Allied Mills in 1958 after having been in charge of feed sales for the Valley City Milling Co., Portland, Mich.

He received his collegiate training at Adrian College and Michigan State University, where he received training in agriculture and business administration.

Studies of Improved Cottonseed Meal For Swine Reported

MEMPHIS, TENN.—Research, supported by the National Cottonseed Products Assn., Inc., at Texas A&M College and North Carolina State College recently has developed information that can help crushers to produce improved cottonseed oil meal for swine, the NCPA reported.

In the Texas test, a meal that had been subjected to excessive processing heat was compared to a meal processed with moderate heat as a protein supplement for swine in rations and without additions of the amino acid lysine. When lysine was not added to the ration, the moderately-heated meal promoted gains which were more than three times those of the excessively-heated meal. When 0.25% of lysine was added to the rations, gains from the two cottonseed oil meal rations were equal to each other and superior to that obtained from a soybean oil meal control ration, according to the test.

These results offer promise that cottonseed crushers may find unrestricted market outlets in swine feeds when lysine can be produced in sufficient volume that its use will be economical. They emphasize, meanwhile, the vital importance of careful processing to improve the nutritive value of meal.

The NCPA reported that North Carolina test results show that gossypol is less toxic to pigs when the quality of the protein is good. In these tests, addition of 0.02% of free gossypol to a ration containing an inadequate amount of lysine in the protein reduced gains 46% and produced toxicity. Adding the same amount of gossypol to a ration containing a satisfactory amount of protein lysine resulted in gains which were 5.4% higher and did not produce toxicity.

A comprehensive collaborative swine test using cottonseed oil meals produced under differing conditions is in progress at these and other experiment stations, according to the association. They are designed to develop data crushers need to produce the most valuable cottonseed oil meal for swine feeding.

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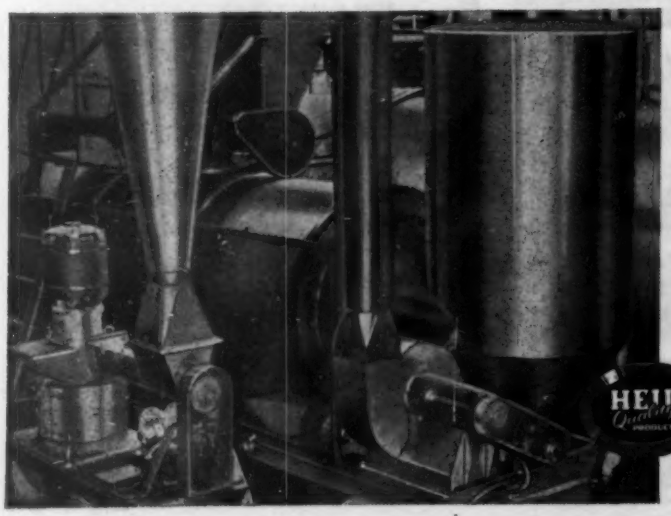

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Buying "second best" feed phosphates to cut formulation costs is false economy. Second best or low cost sources actually waste phosphorus because much of the phosphorus isn't available—can't be used by livestock or poultry.

This makes feeding inferior phosphates an expensive business, especially when compared with the readily available phosphorus provided by International's Dynamic DYNAFOS.

Biological availability tests prove DYNAFOS is today's superior dicalcium phosphate. It is chemically processed and purified . . . low in calcium too. DYNAFOS delivers more available phosphorus in every pound—out-performs phosphates of low availability even under practical conditions...ends the need to add unnecessary margins of safety.

You cut formulation costs because you actually need less Dynamic DYNAFOS. And unique beaded form makes handling and mixing better than ever. Write or wire your International representative for details.

Producers of
Living Minerals

MINERALS International CHEMICALS

31-59

FEED INGREDIENTS DEPARTMENT, AGRICULTURAL CHEMICALS DIVISION

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

Administrative Center: Skokie, Illinois

Sales Agents: **EASTERN AREA:** GRANDONE, INC., Needham (Mass.); SUNSET FEED & GRAIN CO., INC., Buffalo; P. R. MARKLEY, INC., Philadelphia; A. G. GREENE COMPANY, Charlotte (N. Carolina); EDWARD E. SMITH COMPANY, Atlanta; E. A. CARTER BROKERAGE COMPANY, Tampa. **CENTRAL AREA:** BULLARD FEED COMPANY, Chicago; GOOD LIFE CHEMICALS, INC., Effingham (Ill.); JOHN F. YOUNG COMPANY, Cincinnati; R. D. ERWIN COMPANY, Nashville; CHAS. F. WILLEN CO., INC., Birmingham (Ala.); STANDARD SALES COMPANY, Meridian (Miss.); The VITA PLUS CORPORATION, Madison, (Wis.). **MIDWEST AREA:** BLOMFIELD-SWANSON, Minneapolis; W. P. MANN SALES CO., Omaha; M. A. McCLELLAND COMPANY, Kansas City (Mo.); B. A. LUCIUS COMPANY, Fort Worth. **WEST COAST:** JAMES FARRELL & COMPANY, Seattle; JAMES FARRELL & COMPANY, Compton, (Calif.). **CANADA:** N. D. HOGG LTD., Toronto.

WORTH LOOKING INTO

NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

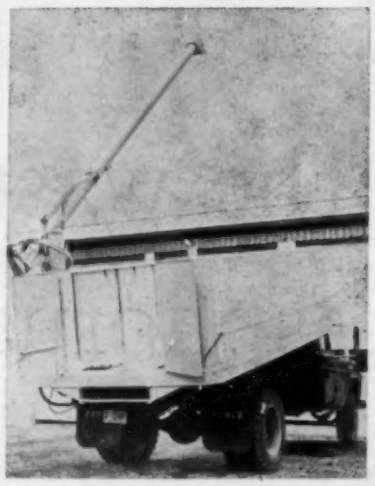
DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7710—Laryngotracheitis Vaccine

American Scientific Laboratories, Inc., has received patent No. 2,910,407 covering the vent drop application of fowl laryngotracheitis vaccine. The method and Travax, a vaccine sold for use under this patent, were developed by ASL. According to company literature, another patent is pending on the vent route administration of Newcastle disease and infectious bronchitis immunizing fractions, singly or together, or in combination with a laryngotracheitis component. Triplvax was developed by ASL for this application, the company says, and should be available for commercial use after the first of the year. Dublvax for vent route vaccination against Newcastle and bronchitis should follow at a later date, the company says. For more information about the vaccines and application, check No. 7710 on the coupon and mail.

No. 7713—Truck Body

A new all-steel truck body, designed for use by farmers, farm supply dealers and commercial carriers, has been announced by Pamco, Inc. The truck body has a wide end gate and is available in lengths between 10 ft. and 39 ft., with sides 42 in. and 56 in. The unit is weather-resistant, has noncorrosive sides and all one piece construction. It is made of 14 gauge steel and is channeled on the outside for extra reinforcement, the company says. For more information, check No. 7713 on the coupon and mail.



No. 7711—Belt Weigher Bulletin

A pneumatically-operated belt (stream) weigher for the continuous weighing of dry materials at low to medium rates is the subject of a bulletin published by B-I-F Industries, Inc. The Omega Pneu-Weigh, Model 36-20-W, is used for feed and flour mills, fertilizer and chemical plants, the company says. It has a range of 10:1 with constant speed drive and 50:1 with variable speed belt drive. It has a capacity of 0 to 3,000 lb. a minute. A pneumatic sensing device makes the feeder adaptable for recording, pacing and controlling other equipment. The bulletin contains a photo of the unit, lists its advantages and describes its operation and accessories. For copies, check No. 7711 on the coupon and mail.

No. 7709—Discharge Collector

The availability of a lightweight discharge collector for use with pneumatic unloading systems has been announced by Sprout, Waldron & Co., Inc. According to company literature, the unit makes it possible to pneumatically deliver feeds into open bins without excessive dusting or ingredient separation. The 16-in. discharge collector is equipped with a bale or bucket type handle so it can be hung from the ceiling, over a nail or over any protruding object. The unit, including a special wear plate, weighs 16 lb. For further details, check No. 7709 on the coupon and mail.

No. 7712—Coccidiosis Vaccine

A six-species coccidiosis vaccine, which includes the species E. brunetti, has been made available by Dorn & Mitchell Laboratories. Called "Cocci-Vac Type B," the vaccine is for use against coccidiosis caused by E. tennella, E. necatrix, E. acervulina, E. hagani and E. maxima, as well as E. brunetti. According to company literature, the project was given top priority in company research due to the increasing incidence of E. brunetti coccidiosis in the field. For more information about the vaccine, check No. 7712 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 7671—Grain handling system, Dunbar Kapple, Inc.

No. 7672—Indicator unit, Richardson Scale Co.

No. 7673—Egg business record, L.

No. 7680—Bovine mastitis treatment, Squibb Division of Olin Mathieson.

No. 7681—Bin level controls, Stephens-Adamson Manufacturing Co.

No. 7682—General catalog, Dow Chemical Co.

No. 7683 — Combination spreader, Gaddis Bros. Manufacturing Co.

No. 7684—Multiple vaccine, American Scientific Laboratories, Inc.

No. 7685—Lamb hormone implants, Chas. Pfizer & Co., Inc.

No. 7686—Health product promotion, Merck & Co., Inc.

No. 7687—Weighing system, Weber Air-Weigh Co.

No. 7688—Bulk material trailer, Productive Acres Mfg. Co.

No. 7689—Animal health product, Dr. Salsbury's Laboratories.

No. 7690—Conveyor holdbacks, Stephens-Adamson Mfg. Co.

No. 7691—Formula capsule, Richardson Scale Co.

No. 7692—Cattle food supplement, Van de Keen.

No. 7693—Egg washer, grader, Oakes Manufacturing Co.

No. 7694 — Materials transport, Delta Tank Manufacturing Co., Inc.

No. 7695—Urea folder, Olin Mathieson Chemical Corp.

No. 7696 — Cab-controlled unloading, Henderson Mfg. Co.

No. 7697—Winter sales promotion, American Scientific Laboratories, Inc.

No. 7698 — Product list, Eastman Chemical Products, Inc.

No. 7699—Urea product, E. I. du Pont de Nemours & Co., Inc.

No. 7700—Feed box accessory, Sudenga Industries.

No. 7701—Scale data sheet, Richardson Scale Co.

No. 7702—Folder on dairy feeding, U.S. Industrial Chem. Co.

No. 7703 — Bulk delivery unit,

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Dry Vitamin A

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Los Angeles 48, California

244 California Street
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Effingham, Illinois

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Box 840
Milwaukee 1, Wisconsin

KINDSTROM-SCHMOLL COMPANY
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Minneapolis 15, Minnesota

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8307 Royden Road
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☐ No. 7710—Laryngotracheitis Vaccine
☐ No. 7711—Belt Weigher Bulletin
☐ No. 7712—Coccidiosis Vaccine
☐ No. 7713—Truck Body

(PLEASE PRINT OR TYPE)

Others (list numbers) .....

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McMillen Feed Mills Promotes D. Fleming

FORT WAYNE, IND.—Douglas Fleming has been promoted to staff assistant to the director of feed sales, according to a recent announcement by McMillen Feed Mills, Fort Wayne.

Douglas Fleming

In his new position, Mr. Fleming will work on special assignments out of the Fort Wayne office.

He joined the company in 1954, following graduation from Michigan State University. He was promoted to territory manager in 1955, and a year later was placed on special assignment in the company's Illinois district.

Knoedler Manufacturers.

No. 7704—Bulk feed tank, Butler Manufacturing Co.

No. 7705—Corn sheller, Bryant Engineering Co.

No. 7706—Hog equipment folder, Brower Manufacturing Co.

No. 7707 — Injectable iron promotion, American Cyanamid Co.

No. 7708—Folder on feeders, Jacobson Machine Works, Inc.

Chicago Port Grain Clearances Decline

CHICAGO — Clearances of grain from the Port of Chicago via the St. Lawrence Seaway dropped below the 1 million bushel mark during the week ending Nov. 5. A total of 756,000 bu. cleared, consisting of 616,000 bu. corn, 57,000 bu. barley and 83,000 bu. soybeans. Cumulative clearances since the opening of lake navigation last April total a little short of 40 million bushels, or nearly twice the size of the 21,177,000 bu. total a year ago.

In addition to the grain loadings for the week, the steamer "Eliz H. Fisser" cleared for Rotterdam carrying 1,517 tons soybean meal, equivalent to 50 carloads. Rotterdam was also the destination for 83,000 bu. soybeans and 57,000 bu. barley. Other destinations (all for corn) were Glasgow, London and three Canadian ports. Assuming a normal "freeze-up" date, the season for lake shipments from Chicago now has just about one more month to run.

Dairying 'Steadiest,' Feed Man Notes

SNYDER, TEXAS—The dairy business has been the steadiest of all agricultural accounts for feed dealers the last few years, according to Maurice Kingsberry, district field supervisor for Ralston Purina Co.

"Chickens have been up and down," he said, "and so have hogs. Sometimes a dealer tries to promote the big business of broilers or laying hens and overlooks the dairying customers. A dealer selling to dairy owners can be paid monthly. He can be of much service in working out rations. And if the owner is also a farmer, the mill can mix his roughage and grain with a manufactured supplement."

Mr. Kingsberry says dairymen are now using higher energy rations than ever before. Many are getting away from the practice of feeding a lot of farm grown roughage and then adding a supplement that is not carefully selected.

"We are making great improvements in dairy feeding," he said, "with the result that both the dairy owner and the feed dealer are making more profit."

Several dairies have been remodeled in this area, and at least two new ones have been added, Mr. Kingsberry said.

more feedmen read

FEEDSTUFFS

than any other magazine in the field

Arbor Acres

Make sure

Your broilers come from ARBOR ACRES females!

Strong Scott

"There's a good reason why . . .

WE LIKE STRONG-SCOTT EQUIPMENT"

says George Simpson, General Manager of Des Moines Oat Products Co.

The Des Moines Oat Products Co. of Des Moines, Iowa produces many varieties of oat products. A modern office plus complete mill and elevator facilities serve the area.

"We produce a variety of oat products that must be accurately ground and mixed. In the months we've been operating our new Strong-Scott Hammermill in conjunction with the Triple Action Mixer our efficiency has increased, our capacity is tops and we have a trouble free, smooth-running plant.

"We are a subsidiary of Blatchford Calf Meal Co., Waukegan, Illinois where Strong-Scott equipment has been in use for years. Like them," concluded George, "we must consistently turn out high quality products, and our Strong-Scott equipment helps us do just that."

Herbert Warren, operator, finds the Strong-Scott Hammermill easy to operate. The capacity is extremely satisfactory.

A 2-ton Strong-Scott Triple Action Mixer with over-head installation offers an ideal working arrangement for a double sack-off operation.

Equipment Designed for Better Processing

The Strong Scott Mfg. Co.

451 Taft Street, N.E.
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Please send me information on the Strong-Scott
☐ Hammermill ☐ Triple Action Mixer

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To protect your equipment and your reputation, install an Eriez permanent-powered magnetic separator, used to pull dangerous tramp iron contamination from feed and grain processing lines of all types.

Magnetic ideas from ERIEZ

Tramp iron is a killer!

Tramp iron in your product can kill cattle and poultry . . . damage your reputation. It can ruin expensive machinery, start fires, cause downtime. Safeguard your investment with one of the many Eriez magnetic separators available to the milling industry. The Eriez Grate Magnet shown here is removing dangerous unwanted iron from a processing line before it can cause damage or contaminate the finished product.

ERIEZ HI-POWR MAGNETIC SEPARATORS

ERIEZ HI-VI VIBRATORY EQUIPMENT

Magnetic Pulley—for separating tramp iron from materials conveyed on belts of rubber, canvas, leather, stainless steel or any other non-magnetic substance. Automatically cleans itself of accumulated iron. Belt widths and diameters in varying sizes.

Plate Magnet—powerful, fully enclosed magnetic units, for stationary or hinged installation. Four magnetic strengths, depending on depth of flow of line. Standard sizes from 4" to 72" width, in 2" increments. Special sizes made.

Magnetic Drum—used for spouts, chutes, spiral conveyors, etc. . . . whenever the materials are not conveyed on belts. Works equally well with hot or cold, wet or dry products. Self-cleaning . . . automatically drops tramp iron away from product.

Eriez manufactures the **most complete line of magnetic separators available**—separators to meet **your** specific needs. Choose from many models, strengths and sizes; **get the best possible protection at the most sensible price!** Eriez separators are non-electric, self-contained, easily installed. No operating or maintenance costs. Magnetic power guaranteed **indefinitely!**

Unstick stuck bins with new HI-VI Bin Vibrators*

. . . FULLY ACCEPTABLE BY MILL MUTUAL FIRE PREVENTION BUREAU!

New, fully enclosed electro-permanent magnetic Vibrators especially made for hazardous, dusty locations. Most efficient way to keep hard-to-move materials flowing through hoppers, bins, chutes, etc. No rectifier needed. Exclusive pinpointed vibration impact. Low initial price. Low operating and maintenance costs. IMPORTANT: INSTALLATION OF THESE VIBRATORS CAN RESULT IN REDUCED INSURANCE PREMIUMS FOR BUILDINGS, EQUIPMENT AND STOCK—HI-VI VIBRATORS OFTEN PAY FOR THEMSELVES WITH THESE SAVINGS!

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*Pat. Pending

Convention Calendar

Nov. 23-24—Alabama Nutrition and Management Conference; Duncan Hall, Alabama Polytechnic Institute, Auburn; chm., Merlin Bryant, Brundidge Milling Co., Inc., Brundidge, Ala.

Nov. 27-28—American Society of Animal Production; Sherman Hotel, Chicago, Ill.; sec., Dr. H. H. Stonaker, Colorado State University, Ft. Collins, Colo.

Nov. 30-Dec. 1—Midwest Veterinary Nutrition Conference; President Hotel, Kansas City; sec., Lloyd Larson, Midwest Feed Manufacturers Assn., 20 W. 9th Street Bldg., Kansas City 5, Mo.

Dec. 2—Ontario Retail Feed Dealers Association; King Edward Sheraton Hotel, Toronto; sec., Murray McPhail, 69 Yonge Street, Toronto.

Dec. 3-4—North Carolina Animal Nutrition Conference; North Carolina State College, School of Agriculture, Raleigh; chm., E. R. Barrick, Head, Animal Husbandry Section.

Dec. 4-5 — Arkansas Turkey Convention and Show; Berryville, Arkansas; sec., Charles D. Hawks, P. O. Box 1446, Little Rock.

Dec. 7—Dairy Study Day; University of Arkansas Agricultural Experiment Station, Fayetteville; Dr. O. T. Stallcup, station dairyman.

Dec. 7-9—Minnesota Poultry Assn., Radisson Hotel, Minneapolis; sec., L. L. Baumgartner, Litchfield, Minn.

Dec. 7-11—Washington State University Stockmen's Short Course, Pullman; chm., Dr. M. E. Ensminger, department of animal science.

Dec. 8-9 — Poultrymen's Service Clinic; Cornell University, Ithaca, N.Y.

1960

Jan. 4-5—Kansas Formula Feed Conference; Kansas State University, Manhattan, Kansas.

Jan. 4-8 — Retail Feed Dealers Training School; University of Minnesota, St. Paul; Dr. J. O. Christianson, Director of Agricultural Short Courses, Institute of Agriculture, St. Paul 1.

Jan. 5-7—National Turkey Federation; Hotel Leamington, Minneapolis; sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 16—Florida State Poultry Producers Assn.; Angebilt Hotel, Orlando, Fla.

Jan. 17-19—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indi-

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

● ● ●

1959

Dec. 8-11—Montana Beef Production School; Animal Industry and Range Management Department, Montana State College, Agricultural Experiment Station, Bozeman; Torlief S. Aasheim, Director, Extension Service.

1960

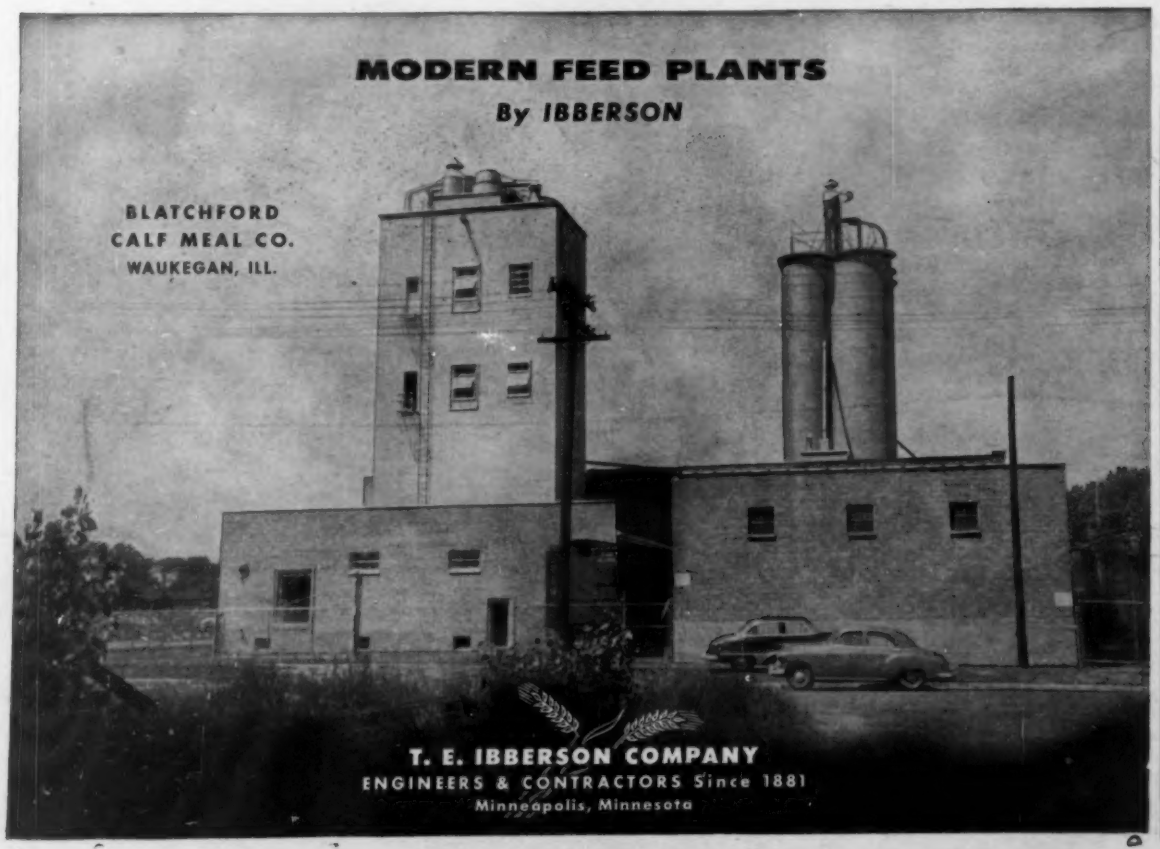
Jan. 17-19—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis; sec., W. D. Flemming, 112 Grain Exchange Bldg., Minneapolis, Minn.

Feb. 2-3 — Hoosier Turkey Trot; Spring Mill State Park, Mitchell, Ind.; Indiana State Poultry Assn., Inc., Department of Agricultural Extension, Purdue University, Lafayette, Ind.

March 23-24—National Broiler Industry Conference; Dinkler-Plaza Hotel, Atlanta, Ga., vice pres., Frank Frazier, P.O. Box 368, Richmond, Va.

Sept. 21-23 — Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Nov. 1-3—Illinois Feed Association and Illinois Poultry & Hatchery Federation, joint convention; Armory, Springfield, Ill.; IPHF Leland Hotel; sec., Dean M. Clark, Board of Trade Bldg., Chicago; IPIA, St. Nicholas Hotel, sec., Aubrey Harless, Box 91, Shelbyville, Ill.



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NOVEMBER

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anapolis, Ind.; sec., Fred K. Sale, 600 Board of Trade Building, Indianapolis, 4, Ind.

Jan. 25-27 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec. Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Feb. 2-3 — Agricultural Industries Forum; University of Illinois, College of Agriculture, Urbana; Department of Agricultural Economics, 305 Mumford Hall.

Feb. 2-4 — American Dehydrators Assn.; Broadmoor Hotel, Colorado Springs; exec. vice pres., Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 4-5—Oregon Animal Industry Conference; Oregon State College, Corvallis, Ore.; chm., Dr. J. E. Parker, Poultry Husbandry Department.

Feb. 4-5—New Hampshire Poultry Health Conference; University of New Hampshire, Durham; Richard Warren, Poultry Department.

Feb. 8-9—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry Dept.

Feb. 8-9—Midwest Feed Manufacturers Assn.; Muehlebach Hotel, Kansas City; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg. Kansas City 5, Mo.

Feb. 10-11—Pacific Northwest Feed Mill Production School; Chinook Hotel, Yakima, Wash.; sponsored by Washington State Feed Assn., mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

Feb. 11—Boston Grain and Flour Exchange Annual Banquet; Sheraton-Plaza Hotel, Boston; chm., Paul Sutliff, 177 Milk St., Boston, Mass.

Feb. 12—Washington State Feed Assn.; Chinook Hotel, Yakima, Wash.; annual convention; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

Feb. 12-14—Fact Finding Conference, sponsored by the Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 59 East Madison, Chicago, Ill.

Feb. 21-23—Ohio Grain & Feed Dealers Assn.; Commodore Perry Hotel, Toledo; sec., George G. Greenleaf,

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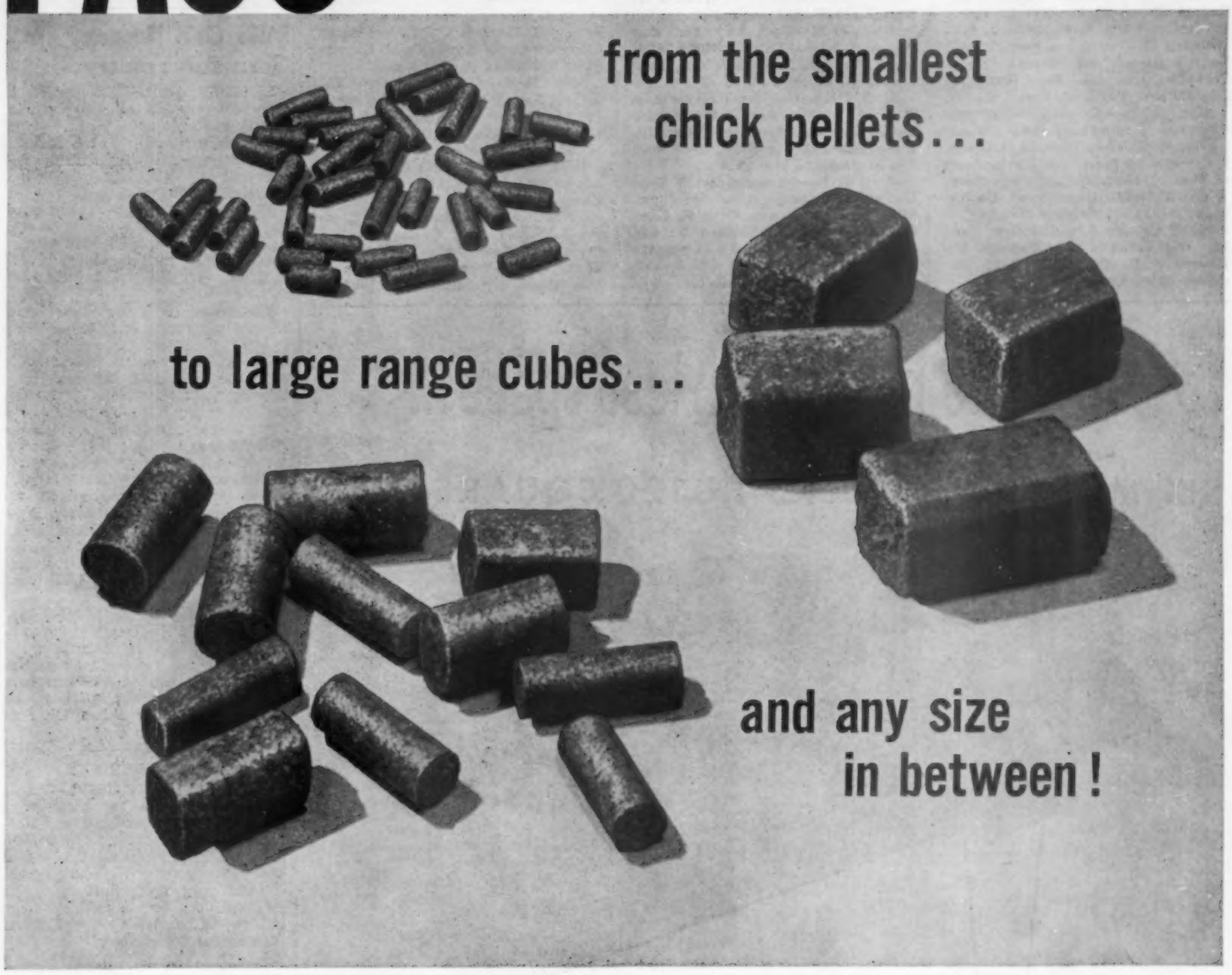

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Feb. 23-24—Virginia Feed & Nutrition Conference; Hotel Roanoke, Roanoke; J. Paul Williams, sec., Virginia State Feed Assn., 615 E. Franklin St., Richmond, Va., or Prof. Paul M. Reaves, Department of Dairy Science, Virginia Polytechnic Institute, Blacksburg, Va.

March 7-8—Grain & Feed Dealers National Assn.; Hotel Muehlebach, Kansas City; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 6, D.C.

March 17-18—Oregon Feed & Seed Dealers Assn.; New Sheraton Hotel, Portland, Ore.; mgr., Russ Hays, 702 Lewis Bldg., Portland, Ore.

Mar. 17-18—Maryland Nutrition Conference; Shoreham Hotel, Washington, D. C.; chm., Richard D. Creek, University of Maryland, Department of Poultry Husbandry, College Park.

March 23—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati; sponsored by Distillers Feed Research Council; exec. director, Dr. Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati, Ohio.

March 31-April 2—Pacific Dairy & Poultry Assn. Exposition and Convention; Stardust Hotel, Las Vegas, Nev.; association office, 1304 E. 7th St., Los Angeles 21, Cal.

April 1-2—Texas Grain & Feed Assn., Shamrock Hotel, Houston; sec., Ray B. Bowden, 407 Fort Worth Club Bldg., Ft. Worth 2, Texas.

April 5-7—Nebraska Grain & Feed Dealers Assn.; Pershing Municipal Auditorium, Lincoln; sec., Howard W. Elm, Trust Bldg., Lincoln, Neb.

April 11-13—Poultry and Egg National Board, LaSalle Hotel, Chicago, Ill.; mgr., Floyd Gell, 8 S. Michigan Ave., Chicago 13, Ill.

April 21-23—California Hay, Grain & Feed Dealers Assn., Ambassador Hotel, Los Angeles; sec., John Gilmore, Blue Anchor Bldg., 1400 10th St., Sacramento 14, Cal.

April 21-23—Kansas Grain & Feed Dealers Association; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

April 22 — Nebraska Livestock Feeders Day; University of Nebraska, College of Agriculture, Lincoln; chm., Wm. J. Loeffel, Animal Husbandry Dept., Lincoln 3, Neb.

May 1-4—National Fisheries Institute; Hotel Fontainebleau, Miami Beach, Fla.; asst. gen. mgr., Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

May 9-11—American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

June 13-15—American Association of Feed Microscopists; San Antonio, Texas; E. E. Brown, Office of State Chemist, Texas Agricultural Experiment Station, College Station.

June 14-15—Alabama Poultry Industry Assn.; Municipal Auditorium (Exhibits) and Thomas-Jefferson Hotel, Birmingham, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

June 14-17—NEPPCO Egg Quality School, Rutgers University, New Brunswick, N.J.; Dr. A. Van Wagenen, NEPPCO, 10 Rutgers Place, Trenton 8, N.J.

July 23-26—Georgia Feed Assn.; General Oglethorpe Hotel, Wilmington Island, Savannah; sec., Will L. Kinard, Suite 210, 3240 Peachtree Road Bldg., Atlanta 5, Ga.

Oct. 5-7—Texas Nutrition Conference, Texas A&M, College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

1961

Jan. 12-13—Michigan Feed & Grain Dealers Assn.; Michigan State University, Kellogg Center; sec., Nevels Pearson, P.O. Box 472, East Lansing.

Milo Can Replace Corn for Poultry

LINCOLN, NEB.—Milo grain is a satisfactory replacement for corn in poultry rations.

This word comes from Dr. Thomas W. Sullivan, nutritionist with the department of poultry husbandry at the University of Nebraska.

Milo and corn vary as sources of energy, dietary protein and vitamin A. Considering these three nutrients, however, milo compares quite favorably with yellow corn, Dr. Sullivan said.

The productive energy content in calories per pound is 1,150 for corn and 1,100 for milo. Corn contains about 8.8% protein, compared with 11.3% in milo. Milo, however, contains very little vitamin A activity and Xanthophyll (yellow pigment).

"If closer attention is given to vitamin A supplementation, milo can satisfactorily replace one half to all of the corn in most poultry rations," the university nutritionist stated.

In milo rations, an adequate level of vitamin A can be furnished by including 5% of good quality dehydrated alfalfa meal along with a vitamin A supplement (2,000 USP units per pound of diet).

Extra energy in the form of animal fat should also be added to starting rations for young birds when milo completely replaces yellow corn.

Whole milo can be fed in a grain mixture, but ground milo should be used in a complete ration, Dr. Sullivan concluded.

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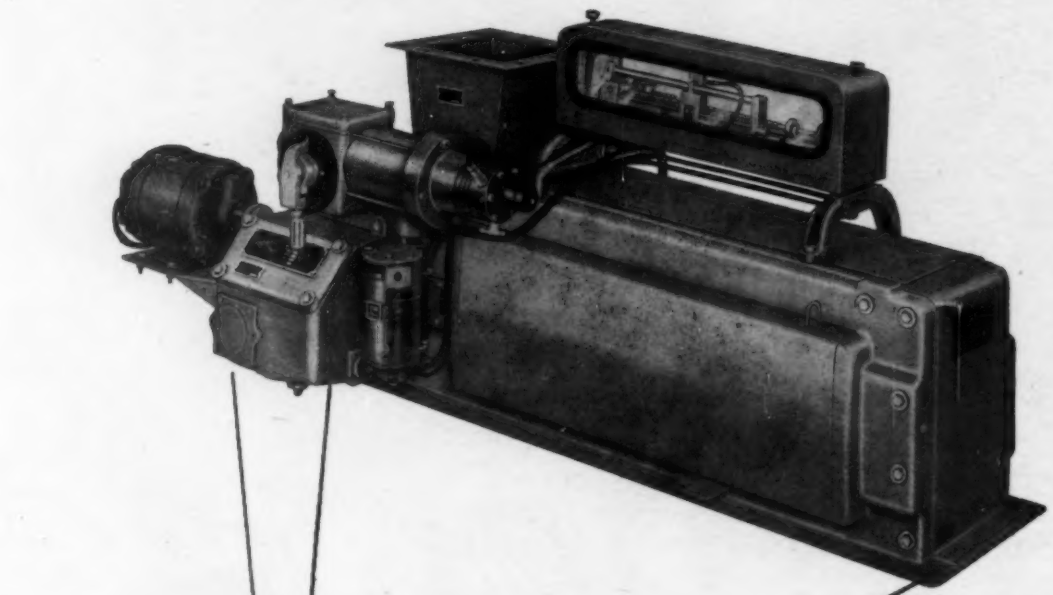

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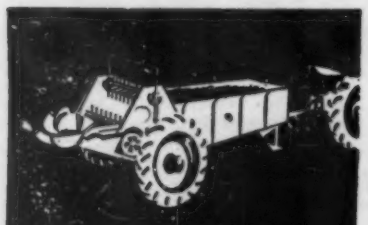

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Nov. 1 Crop Report Adds Assurance To Highest Tonnage of Feed Grains

WASHINGTON — Feed grain tonnage well above any previous year now seems assured, the Crop Reporting Board said this week in its crop production report based on Nov. 1 data.

Corn and soybean production showed slight declines from the Oct. 1 estimate, but the corn crop, forecast at 4,402 million bushels, still is 16% above the previous record last year and 35% above average, and soybean production, estimated at 528 million bushels, is the second highest of record and about three fifths above the 10-year average.

Increased production is seen for ingredient sources such as cotton, sorghum, rice and sugar beets.

This year's oats production was relatively small, but large crops of sorghum and barley were grown.

Corn and soybean production slipped from the Oct. 1 estimate as yields expected earlier failed to materialize in several fairly heavy producing states.

Cotton prospects improved slightly as generally favorable October weather in the Delta states brightened the outlook to overcome some deterioration in the Southeast, Texas, Oklahoma and Arizona.

Sorghum grain prospects gained 2½% as the Texas crop exceeded earlier expectations.

Dry beans declined about 4% as harvest weather was unfavorable in the northern producing areas.

Rice and sugar beets all showed small increases during October.

The Crop Reporting Board said pastures for the nation as a whole were among the most favorable of

Crop Production, November, 1959

Crop	Acreage Harvested Average 1948-57	Acreage Harvested 1958	For harvest 1959	1959 % of 1958
	thousands			%
Corn, all	80,228	73,470	84,387	114.9
Wheat, all	60,601	53,577	53,217	99.3
Winter	42,874	41,539	40,552	97.6
All spring	17,727	12,038	12,665	105.2
Durum	2,342	929	1,271	136.8
Other spring	15,385	11,109	11,394	102.6
Oats	37,431	31,826	28,823	90.6
Barley	11,513	14,876	15,089	101.4
Rye	1,705	1,784	1,417	79.4
Flaxseed	4,698	3,853	3,385	87.9
Sorghum grain	9,784	16,761	15,965	95.3
Hay, all	74,081	73,033	70,991	97.2
Hay, wild	13,558	11,636	11,870	102.0
Hay, alfalfa	23,397	29,801	28,776	96.6
Hay, clover and timothy*	18,341	15,560	14,919	95.9
Hay, lespedeza	5,259	4,700	4,239	90.2
Soybeans for beans	15,498	23,752	21,968	92.5

Source: Crop Reporting Board.
*Excludes sweet clover and lespedeza hay.

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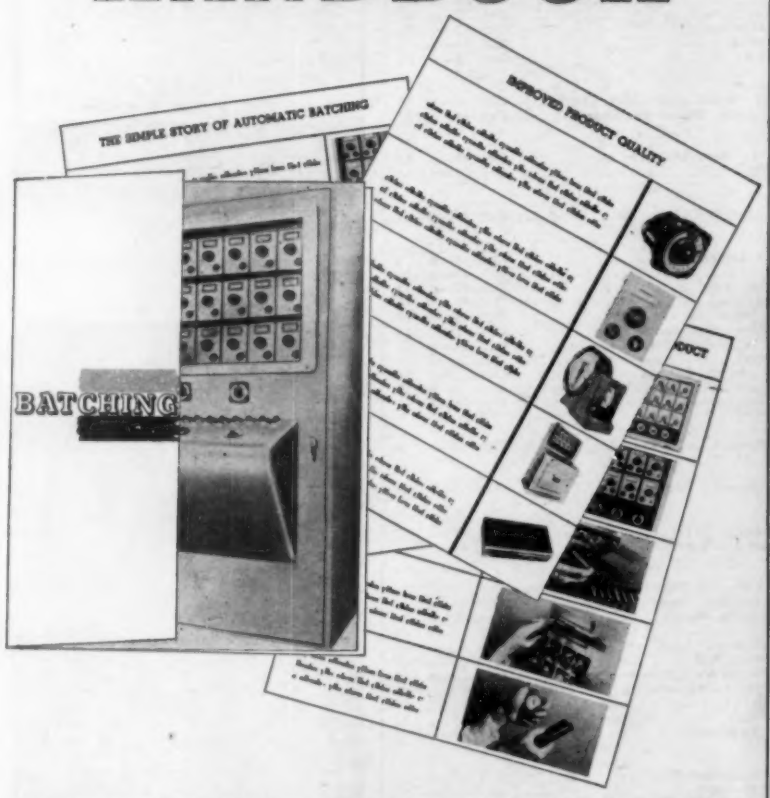

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- HOW TO USE WHAT YOU HAVE
- HOW TO SELECT THE RIGHT SYSTEM

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ILLINOIS FEED ASSN. OFFICERS—Ivan Miller (left), Crawford County Farmers Exchange, Robinson, Ill., congratulates Dan Teefey, Teefey Grain Co., Mt. Sterling, Ill., on his election to the presidency of the Illinois Feed Assn. during the annual convention in Springfield Nov. 3-5. Looking on are Carl Rylander (next to Teefey), Kaufman Feed Mill, Waterman, Ill., the new vice president, and A. T. Myren, Faultless Milling Co., Springfield, re-elected treasurer. (Due to an error in transmission, Dan Teefey's name was misspelled in the Nov. 7 issue of Feedstuffs which reported his election.)

record for Nov. 1, and only slightly below the unusually lush conditions of a year ago. October rainfall stimulated marked late season improvement in most areas but much of the Southwest remains dry with California pastures in the poorest condition of the last decade. In northern areas, where temperatures were too cool to encourage much new growth, the precipitation softened and made cured feed more palatable. Frequent rains in the Southeast, although favoring growth of grass, hampered late hay making and seeding of winter pasture crops.

Soybean harvesting made good progress during October although there was considerable delay due to rainy and wet weather over much of the main soybean area. Growers pushed ahead rapidly during favorable days and a large portion of the harvest was completed by the end of last month. However, more soybeans still were in the fields than last year at the same time when harvesting in the major areas was virtually completed.

In the heavy producing north central area, soybean production prospects declined only slightly with the increases nearly equalling the declines. Most producing states reported no change from a month ago.

Soybean production prospects in the South Atlantic area declined slightly from a month ago. Harvest in the region has been later than usual due to frequent and heavy rains during October.

Corn Harvest

Of the 4,402 million bushels of corn to be harvested, the Crop Reporting Board says that 4,090 million bushels are likely to be harvested for grain, a somewhat higher proportion than for other recent years. The large increase in acreage this year was intended for grain purposes and little had to be diverted to silage or forage because of failure to make grain.

In the Corn Belt, corn production is indicated at 3,565 million bushels, 20% above last year. Harvest is running later than usual in most parts of the area.

The Atlantic area's excellent corn crop is slow getting to the crib, too, but in the south central area, harvest has progressed near the normal rate. Harvest of the West's bumper crop has been slowed by intermittent rains in northern parts but weather has been favorable for harvest in the southern part of the area.

The Crop Reporting Board says production of sorghum grain is estimated at 589 million bushels—second only to the record crop of 615 million last year and 2¾ times as large as the 10-year average production. The estimate is 2½% above the Oct. 1 forecast mainly because the important Texas crop turned out better than expected earlier.

The record Texas crop of sorghum grain—292 million bushels—accounts for about half the U.S. production this year. The Kansas yield of 32 bu. an acre is second only to last year's record of 33 bu. By Nov. 1, harvest was about three fifths completed, somewhat slower than average.

Harvest was delayed by wet weather in October in most areas of the Corn Belt and in the eastern and southern states.

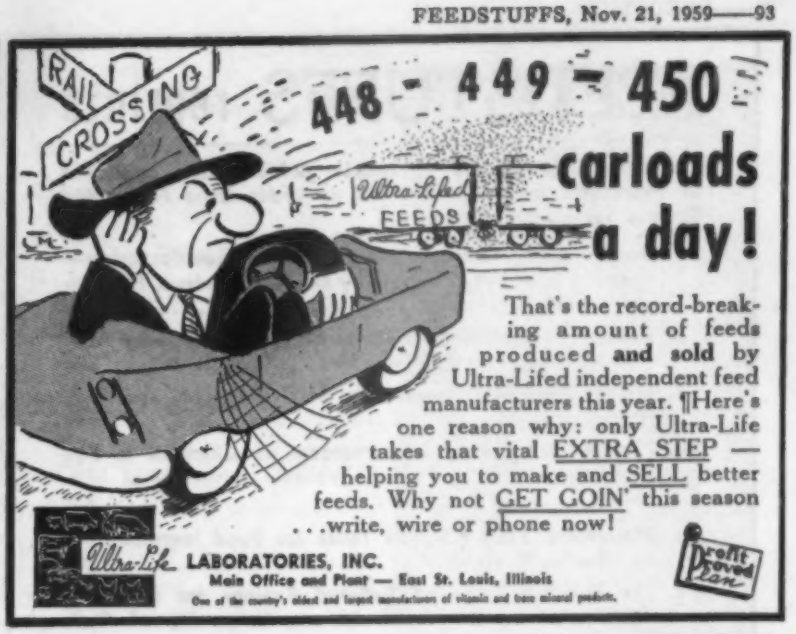
Pelleted Rations Topic At Montana Meeting

BOZEMAN, MONT.—Self feeding pelleted rations for fattening cattle and lambs will be one of the topics discussed at the fifth annual Beef Production School Dec. 8-Dec. 11 at Montana State College here.

John Knox, head of the animal husbandry department at New Mexico State University will speak on this topic, along with discussing the effect of selecting livestock for high production.

Another out-of-state guest speaker on the program will be Frank Parsons, director of research for the Federal Reserve Bank of Minneapolis, talking on the effect of tight money on farm borrowers and lenders.

The program will cover a broad field including breeding, management, nutrition, range management and veterinary problems and financing livestock operations.



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Soybean Meal Accounts for Big Share Of Increase in Feedstuff Consumption

WASHINGTON—Soybean oil meal accounted for most of the increase in feedstuff during the last feeding season — October, 1958 to September, 1959—compared with the previous season. Still, supplies of cottonseed, peanut, alfalfa and fish meals and distillers dried grains also showed substantial increases, the Agricultural Marketing Service reports.

Feedstuff use during the latest season totaled 20.2 million tons — 1.2 million more than the previous season and 3.1 million above the five-year average.

AMS reports that about 11.9 million tons of oilseed meals were fed during 1958-59, or 1 million tons more than the year before. Of this, nearly 9 million tons were soybean meal. Feeding of 2.2 million tons of cottonseed meal was 100,000 above 1957-58. Linseed meal supplies dropped nearly 60,000 tons and copra meal by 40,000 tons, but this was partly offset by an increase of 30,000 tons in supplies of peanut meal.

October-September oilseed meal exports of 570,600 tons were sharply above the 314,900 tons exported a year earlier. Imports increased slightly and totaled around 160,000 tons.

Output of wheat millfeeds dropped 1%, but exports were also lower and domestic feeding was at about the previous year's level. Output of other grain by-product feeds was about unchanged except for a 22% increase in distillers' dried grains. Feeding of alfalfa meal increased 65,000 tons, with Oct. 1 stocks only slightly above a year earlier. Supplies of fish meal — 478,000 tons — were 95,000 tons above 1957-58 reflecting both larger production and imports.

Livestock numbers increased during 1958-59. The number of grain consuming animal units fed was estimated at 171 million compared with 161.5 million in 1957-58 and 160.9 million for the five-year average.

Georgia Corn Millers Name New Officers

COVINGTON, GA.—E. L. Butler was named president of the Georgia Corn Millers Assn. with Don Southerland, Berlin Milling Co., Berlin, Ga., vice president, and John Noland of the Georgia extension service as secretary.

Named to the board of directors were John Gilliland, College Park Milling Co.; Claud Perkerson, Perkerson's Corn Mill; Hubert Birdsey, Birdsey Flour Mills; C. R. Mehaffey, Jr., City Mills; W. A. Miller, Miller's Mill; Ralph Prichett, Phillips Milling Co.; A. F. Seagraves, Seagraves Mill; Bruce Williams, Pine Mountain Corn Meal; Harold Buck, Eelbeck Milling Co., and Clyde Nichols, Happyvale Mills.

Feedstuffs: Production, stocks, foreign trade and domestic disappearanc October, 1958-September, 1959, and 1957-58

Feedstuff	Stocks Oct. 1*	Production	Imports†	Exports†	Domestic disappearance	Stocks Sept. 30*
	(1,000 tons)					
	October, 1958-September, 1959					
Oilseed meals:						
Soybean	48.1	9,507.9	0	512.1	8,985.4	58.5
Cottonseed	71.2	2,153.6	126.2	27.3	2,226.7	97.0
Linseed	26.3	451.5	3.6	31.2	416.9	33.3
Copra	0.6	114.6	31.5	**	146.7	...
Peanut	1.5	75.2	0	**	74.9	1.8
Total	147.7	12,302.8	161.3	570.6	11,850.6	190.6
Grain by-products:						
Wheat millfeeds	**	4,618.6	83.0	42.1	4,659.5	**
Rice millfeeds	**	236.4	**	**	236.4	**
Gluten feed and meal	**	1,040.8	**	**	1,040.8	**
Distillers dried grains	2.2	348.4	**	**	341.7	8.9
Brewers dried grains	4.9	234.6	**	**	231.3	8.2
Total	7.1	6,478.8	83.0	42.1	6,509.7	17.1
Other feeds:						
Fish meal	**	355.6	122.7	**	478.3	**
Alfalfa meal	451.7	1,352.4	**	**	1,335.1	469.0
Total feeds	606.5	20,489.6	367.0	612.7	20,173.7	676.7
	October, 1957-September, 1958					
Oilseed meals:						
Soybean	54.7	8,284.3	1.4	300.0	7,992.3	48.1
Cottonseed	209.7	1,922.2	71.6	7.2	2,125.1	71.2
Linseed	63.7	435.4	7.9	5.9	474.8	26.3
Copra	0.7	119.5	67.5	**	187.1	0.6
Peanut	3.2	45.4	0	1.8	45.3	1.5
Total	332.0	10,806.8	148.4	314.9	10,824.6	147.7
Grain by-products:						
Wheat millfeeds	**	4,676.1	91.8	78.9	4,689.0	**
Rice millfeeds	**	242.1	**	**	242.1	**
Gluten feed and meal	**	1,030.1	**	**	1,030.1	**
Distillers dried grains	2.4	279.4	**	**	279.6	2.2
Brewers dried grains	4.0	225.9	**	**	225.0	4.9
Total	6.4	6,453.6	91.8	78.9	6,465.8	7.1
Other feeds:						
Fish meal	**	295.6	87.9	**	385.5	**
Alfalfa meal	441.5	1,281.0	**	**	1,270.8	451.7
Total feeds	779.9	18,837.0	328.1	393.8	18,944.7	606.5

*Stocks at processing plants only. †Partly estimated. **Not available.

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St. Regis Announces Product Expansion

NEW YORK—St. Regis Paper Co. announces Lone Star Bag and Bagging Co. of Houston, Texas, and Wagner Bag Co. of Salt Lake City, Utah, which it acquired recently, will continue operations as subsidiaries of St. Regis.

These subsidiaries will result in the expansion of the product lines of St. Regis' Bag Division and provide it with a full line of flexible packaging materials for all types of bags and sacks.

In addition to multiwall paper bags, St. Regis will now produce and sell a full line of textile bags, including burlap, cotton, paper, mesh and paper-textile-film laminates. Also, St. Regis will distribute all types of film plastic bags.

The St. Regis multiwall bag plant at Kansas City has been redesignated as the Mid-America Bag Division. In addition to multiwall bags, this will include the production and sale of textile bags.

Herbert Levy, formerly executive vice president of Lone Star Bag, has been appointed director of central operations to coordinate and guide the over-all sales and production of Lone Star Bag, Wagner Bag, and Mid-America Bag.

California Records Extra Dry October

SAN FRANCISCO—This was the driest October in 42 years in California—without a drop of recorded precipitation for 31 days. Meteorologists say there was no measurable amount of rainfall and that such has not been the case since 1917. Usually, rainfall is light during the month, which marks the beginning of the state's six-month rainy season.

Last month was the hottest ever—or at least since records were begun in 1871.

The result is both good and bad news for the feed industry. If the dry weather continues—and t h e r e has been only 2.08 in. of rainfall since July 1—grazing conditions will deteriorate, and animal raisers will have to depend more heavily on commercially-produced feed products to keep their livestock and poultry nourished.

On the other hand, the extended dry period may threaten grain crops needed for feed processing.

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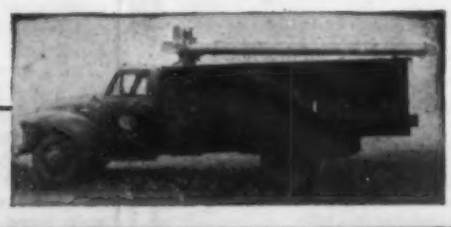

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Feed Supply Down In Western Region

FARGO, N.D. — Stockmen in the West are faced with the prospect that costs of carrying livestock through the winter will be the highest since the drouth year of 1956, according to the Crop & Livestock Reporting Service.

About the only area in the western region where wintering expenses will not be sharply above those of the last two years is in the central and southern plains states of Kansas, Oklahoma and Texas, where there are abundant supplies of both harvested forage and range feeds. In the balance of the western states, the total available rough feed per forage-consuming animal unit will be considerably below the level of the last two years, according to the report.

Widespread moisture received during the last 60 days has materially improved fall grazing conditions, particularly in the northwest states of Washington, Oregon and Idaho. Improved soil moisture also has brightened the outlook for pasturage from fall seeded grains. Marketings of range livestock increased seasonably during the last month but still continue relatively late as producers are reluctant to sell at present prices, the report goes on.

Range feed conditions improved one point during October as widespread storms provided additional moisture. Nov. 1 reports from ranchers and farmers indicate that 65% of the total expected fall marketings of western range cattle and calves had been sold or contracted out of the first hands by Nov. 1. This compares with 70% for the same date in 1958. In general, fall and winter sheep ranges furnished only fair grazing and the No. 1 condition of sheep and lambs reflects this feed situation. Bands and flocks are reported in above average condition in only two states, Texas and Washington.

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Cyanamid Producing Urea at New Plant

NEW YORK—American Cyanamid Co. has announced the availability of feed-grade urea produced at a new plant in Hamilton, Ont., operated by the firm's Canadian subsidiary, Cyanamid of Canada, Ltd.

According to B. F. Bowman, director of marketing, the new product is manufactured by the Chemico process, the only American-developed, recycle urea manufacturing process presently in use. The Hamilton plant is the first of its kind in North America, Mr. Bowman said.

To prevent lead contamination of the finished urea product, the linings of the autoclaves used in the manufacturing process are silver plated to minimize corrosion and to insure a pure product. The low biuret content of the finished product is another feature which distinguishes urea feed compound from other products, Mr. Bowman said.

Cyrea is a micro-prilled product with non-caking and non-bridging properties. Particle size is controlled to insure uniform distribution in feeds. The nitrogen content is standardized at a minimum of 42 percent by the best available coating agents, he added.

Bulk Equipment Firm Organized in Iowa

DES MOINES—Norman Melos of Des Moines has formed a new company to manufacture and distribute bulk feed handling and processing equipment. This company, the New Way Manufacturing Co., will be located on the north edge of Des Moines on Interstate Highway 35.

Norman Melos

He has ten years experience in the portable milling and feed industries. Mr. Melos is known throughout the feed industry for his work in the building of portable mills.

He was associated as president and co-owner of Melos Manufacturing Co. of Des Moines. He recently sold his interests in this company to his two brothers, Stanley and Earl Melos.

Norman Melos has started construction on a new building to house his production plant. Mr. Melos states he anticipates developing a nationwide organization to handle a completely new line of bulk feed handling equipment.

Tranquilizers Fail In Swine Experiment

LAFAYETTE, IND.—Addition of various levels of seven different tranquilizers to growing-finishing swine rations failed to increase daily rate of gain, stimulate feed intake or improve feed efficiency in two Purdue University experiments.

Feed efficiency of all lots was good, varying from 326 to 338 lb. of feed required per 100 lb. of gain. Feed costs, not including tranquilizers, ranged from $9.32 to $9.67 per 100 lb. of gain.

In a previous Purdue experiment, relatively low levels of tranquilizers were fed in a complete mixed ration to growing-finishing swine. At those levels, they had no significant effect on rate of gain. Feed consumption and feed required per hundredweight gain were similar in all lots. Higher levels of the tranquilizers were fed in the second experiment. Summaries of the two experiments are reported in animal science mimeos 243 and 259.

A man applying for a job asked the interviewer, "Will your company pay my hospital insurance?"

"No, you pay for it. It'd be deducted from your check."

"Last place I worked they paid for it."

"Did they give you life insurance, too?"

"Sure did . . . and a Christmas bonus, coffee breaks, and . . . "

"Why did you leave?"

"The company folded."

◆ ◆ ◆

The doctor stopped the nurse and asked, "What is that skinflint patient complaining about now?"

The nurse replied, "He says he got well before all the medicine was used up."

◆ ◆ ◆

"I'm sorry if our hammering disturbed you. We were hanging a picture."

"Oh, that's all right. I just came over to ask if it was all right if we hung a picture on the other end of the nail."

◆ ◆ ◆

Reporter: "Now that you are wealthy are you ever bothered by the friends you had when you were poor?"

Man of Wealth: "I never had any friends when I was poor."

◆ ◆ ◆

"Mummy," asked the child, "why doesn't daddy have hair on his head?"

"Daddy thinks a great deal, dear."

The child mulled this over and then wanted to know, "Mummy, why do you have so much hair on your head?"

"Shut up and eat your breakfast."

◆ ◆ ◆

Two hillbilly draftees were taking their first train ride. A vendor came through the car and each bought a banana, a fruit they had never seen before. One of them had just started to eat when the train went into a tunnel.

"Lem," said the one in strained voice, "you started to et yours, yet?"

"No," replied Lem.

"Then don't—I started to et mine and I've gone blind."

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● No. 9 in a series of conversations with Gooch Feed Dealers

"I do my Christmas shopping free with Gooch's Red Circle dealer points."

"There's more than my handsome (?) face behind this beard. There's a little story, too. When the Christmas spirit hits me, I guess I go all out, like everyone else. The only difference is that *I* don't regret it later, when it's time for the Christmas bills to come in. Reason is, I buy my Christmas gifts with *free* Gooch Red Circle dealer points. Along with the nice profit I make on every ton of feed, I get points I can spend for gifts from the Gooch Red Circle Catalog. And those gifts are top-notch merchandise my family really goes for. In fact, my wife was so pleased with the Westinghouse roaster-oven I gave her last year, that a couple of weeks ago she gave me this Santa Claus beard. If that isn't a delicate hint to match it this year, I never saw one. My customers save Red Circles from Gooch's Best Feed bags because they like the Gooch merchandise plan as well as I do. Believe me, it's a wonderful way to keep customers repeating."

Gooch Red Circle premiums for dealers and their customers is one way Gooch shows its appreciation for their loyalty. Thousands of farm families are saving the Red Circles they get on Gooch's Best Feed bags and Gooch's Best Food Products. Many thousands of premiums are sent out each year. They have helped Gooch dealers establish enviable sales records.

We'd like to tell you about all the other advantages of being a Gooch dealer. There may be a Gooch franchise open in your area. Write to Gooch Feed Mill Company, Salina, Kansas, or Lincoln, Nebraska.

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Dalhart, Texas • Vicksburg, Mississippi

GOOCH RED CIRCLES ARE VALUABLE! GOOCH'S BEST COLLECT THEM

General Mills Conducts Egg Promotion Campaign in New Mississippi Program

By Special Correspondent

JACKSON, MISS.—An all-out promotion campaign is being conducted by General Mills, Inc., Minneapolis, to promote "Sure Fresh" eggs following the recent opening of its new egg processing plant here.

(The opening of the plant was reported in the Oct. 31 issue of Feedstuffs.)

A total of 380 radio and TV spots, full page ads in food sections of the Clarion-Ledger News and the State-Times are being used. A special eight-page section has been run in the Clarion-Ledger already. In addition, there will be merchandising tie-ins with stores, radio and TV stations, grocer mailings and use of jumbo postcards.

The promotion includes advertising, merchandising and public and consumer relations on a wide scale "to make the consumers aware of the quality egg program that is being undertaken." Aiding in that operation is Klau-Van Pietersom-Dunlap, Milwaukee and Chicago, advertising agency, serving the Larro feeds division of General Mills.

A number of other promotional efforts also have been undertaken by General Mills.

Six costumed women visited the downtown area of Jackson and shopping centers distributing 25,000 hard boiled eggs, packaged with salt and two Betty Crocker recipes.

Also, an eight-foot walking egg attired to represent the GMI Sure Fresh trademark of a well-shaped egg with tall gold crown at a jaunty angle toured the downtown and shoping area.

Blue and gold Sure Fresh egg display cases were installed at retail outlets handling the eggs. All display cases were staffed by demonstrators to show housewives ways in which Sure Fresh eggs could be used.

Through contract arrangements, 43 farmers within an hour's drive of Jackson are producing eggs for the company, using the company's chickens, its Larro feed product and following a definite plan of operation set up by the firm.

The resulting eggs will be marketed as General Mills Sure Fresh eggs and will carry the company's guarantee.

Plant Manager John Zuccaro who has had 19 years experience in the poultry business, pointed out that GMI quality egg processing moves the egg through an assembly line procedure of inspection, packing and sealing within four minutes.

Cases from Mississippi farmers are delivered directly to a refrigerated area and kept under constant 50 degrees temperature. The eggs move from storage to an assembly line where they are examined, inspected, separated by weight, packaged and sealed.

General Mills will use 30 to 35 trucks in gathering eggs from the area's producers and delivering the packaged product to retail outlets.

Some 75 persons are employed at the Jackson plant with a total annual payroll of $690,000. Production at the Jackson plant is expected to be 9,885,000 dozen eggs per year.

Sure Fresh eggs were introduced at an average price of 35¢ a dozen or 3 dozen for $1 at Jackson outlets.

Jackson office manager is B. T. Potts who has been with General Mills for 12 years, residing in Jackson for the last year as the program was getting under way.

Harold Allen, associated with the poultry field for the past 10 years, is marketing manager for the Jackson office. An executive of General Mills for the past five years, Mr. Allen has 10 years experience in the chicken and feed field. He was a territorial representative before being named to his present position.

Raymond C. Shaver, former executive of Better Eggs, Inc., and Armour & Co., will serve as president and general manager of Capitol Egg Distributors, Inc., sales outlet for Sure Fresh eggs in the Jackson area.

Bringing the Sure Fresh eggs into the Jackson market is the culmination of a poultry program started last May. Farmers participating in egg production, which is built around the program of egg production with Larro Sure Feeds, are under contract with General Mills, whose control program is supervised by Jim Sebren, field supervisor, and four field servicemen.

Explaining the field program, Mr. Sebren said chickens are raised by Ray Parish at Forest, Miss., held until they are 18 weeks old, then distributed to the farmers under contract. Each farmer is permitted to own no more than two 26 x 200 ft. houses, which house 3,300 chickens each. Loss of birds is held to about 5%.

Blueprints for the houses are provided by General Mills and each house, with all equipment in the program, is exactly alike. The tin-roofed, screen walled houses all face east and west, with the nests located on the north side. Electric lights assist the sun in assuring each house of 14 hours of daylight per day.

The hens, all of H&N strain, are placed in the houses at the age of 18 weeks. During peak laying season, the 3,300 birds should produce 2,500 eggs daily, officials said.

The farmer, who receives $300 per month per house, follows a rigid daily schedule of feeding and watering the hens, cleaning the feeders, gathering eggs four times a day and cleaning and storing the eggs. Twice each week eggs are delivered to the Jackson plant.

Under the contract arrangement, the farmer pays for the house and all equipment and General Mills provides the chickens, feed and assistance.

The chickens are left on the farm for 12 months, at which time they are considered to be past their peak laying period. At the end of 12 months, they are sold and the farmer may begin a new program.

GMI placed its first chickens on Mississippi farms May 1 and made its first egg delivery Aug. 1. By December, the company expects to have 250,000 hens on state farms.

Eventually, General Mills expects increased egg production in this area will supply enough Sure Fresh eggs so that they can be made available to markets in Biloxi, New Orleans and other Mississippi cities.

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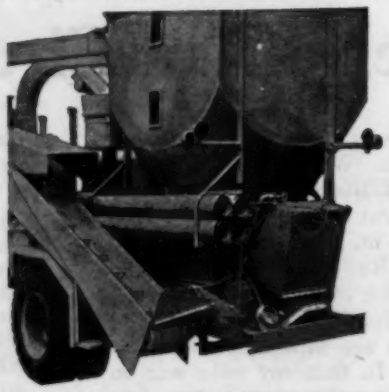

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Read CAPITAL COMMENT In FEEDSTUFFS

NEW SPECIFIDE PLANT—Shown is artist's drawng of new feed pre-mix blending plant being constructed in Indianapolis by Specifide, Inc. Company officials say the new plant "will provide faster service to feed manufacturers." The plant will use the latest equipment available for blending and mixing micro-nutrients into pre-mixes. Completion date is expected to be around the first of the year.

More Moisture Badly Needed in California

SAN FRANCISCO—Dry weather, above normal temperatures and high winds halted growth of new pasture and range feed that had been started by the mid-September storms.

Grazing conditions show improvement only in the north coast counties that were favored with some light rains during October. Moisture is badly needed to insure an adequate supply of winter forage. Livestock have been maintained in surprisingly good condition by supplemental feeding and by maximum utilization of irrigated pastures and crop residues. Fall lambing is well under way in the San Joaquin Valley and has started in the Sacramento Valley.

Range and pasture feed condition on Nov. 1 was reported by the California Crop and Livestock Reporting Service the same as a month earlier at 70% of normal. Only once in recent years has pasture condition been reported lower than 70%. Range feed growth is at a standstill in all parts of the state except the north coastal area, where moisture has been sufficient to start and maintain feed.

American Cyanamid Gives Delaware Grant

NEW YORK—The University of Delaware has accepted a grant-in-aid from American Cyanamid Co. to continue its investigation of infectious poultry diseases, according to a recent announcement.

The work is under the direction of Dr. Morris S. Cover, who is carrying out his studies in the university laboratories with further evaluation in the field.

The increased effectiveness of potentiated Aureomycin chlortetracycline for the prevention of C.R.D. and infectious synovitis is being studied. New chemotherapeutic agents are being tested in combination with the antibiotic.

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Progress Products Co., Inc.
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Sioux Alfalfa Meal Co.
Vermillion, South Dakota

Trico Feed Mills
Minden, Nebraska

Wraybill Dehydrating Co., Inc.
Sloan, Iowa

MISSISSIPPI OFFICERS—New officers of the Mississippi Poultry Improvement Assn., elected at the recent convention in Biloxi, are (left to right): Cecil H. Payne, Morton, president; H. F. McCarty, Magee, vice president, and P. H. McDonald, New Albany, treasurer.

Confidence in Poultry Industry Growth Expressed at Mississippi Convention

BILOXI, MISS.—Confidence that the poultry industry would continue to expand and prosper despite unfavorable prices for broilers and eggs was expressed by Si Corley, commissioner of agriculture, at the Mississippi Poultry Improvement Assn. meeting recently.

Mr. Corley said, "I do not see much hope for too large an increase in prices on broilers. But I see a better opportunity for eggs."

The commissioner stated that Missippi will produce 105 million broilers this year based on the present rate continuing. This compares with 85,424,000 in 1958, he said. Annual cash farm receipts, he noted, from all

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poultry in the state in 1958 totaled $67,690,000.

He predicted the state would move up to fifth or sixth position nationally in the production of broilers for the year.

New food products featuring eggs were described by R. M. Hendrickson marketing manager, poultry feeds, General Mills, Inc., Minneapolis.

"We're really not in the poultry business, we're in the food business," he said. "We must compete for the consumer's dollar on the store shelves."

Besides developing new products, many of which are ready to use, selling by brand name is important, Mr. Hendrickson stated. "If you're going to demand any acceptance at all, you've got to sell by brand name," he said.

Donald P. Corbett, Waterville, Maine, president of the American Broiler Council, stressed the industry's responsibility in better merchandising, promoting and advertising broilers.

Telling the consumer about broilers is the business of the entire industry, but especially of the processors, he said. He urged industrymen to stress that broilers are high in proteins and vitamins, low in calories and easily digested.

Electric power is just as much a part of farm resources as labor, R. D. Morrow of Brandon said. Mr. Morrow is director of the Southern Pine Electric Assn. and president of the Southern Electric Generating Assn.

In poultry operations of all sizes, the proper use of electric power can be an important part of the cost cutting so necessary for today's poultryman, he added.

Governor-elect Ross Barnett, Jackson, Miss., talked on the outlook for the industry in Mississippi.

"We are grateful that we do not have a sales tax on poultry feeds and as long as I am your governor, there will be none," he declared. "We must not do anything that will impede the progress that you have made and are making."

Mr. Barnett credited the industry with gains that help other parts of the economy. The state's trucking industry has expanded to keep pace with the growth of modern poultry processing plants in Mississippi, he said. He mentioned the production of hatching eggs and the manufacture of poultry equipment as important allied industries. Mr. Barnett also praised the association for its opposition to government controls of poultry in any form.

Fred Gaddis, Forrest, moderated a panel on "How to Stay in the Broiler Business." H. F. McCarty of Magee, producer and dealer, suggested more vertical integration, good management from grower to market, aiming toward sound financing and supporting industry organizations which strengthen the position of broilers in the market place.

R. G. Purnell of Tupelo, processor, declared, "You've got to sell poultry." This should be a coordinated effort by all segments of the industry, he added, "We've got to process for a market, not just sell what we process. The consumers write the ticket. We've got to give them what they want."

Panel members agreed the cost must be reduced and that it could be done.

D. T. Irby of Hattiesburg, producer of breeder hens as a source of eggs for hatcheries, suggested "remodeling the hen" by taking advantage of developments in poultry breeding. Further reduce costs by improved general management and mechanization in the poultry house, he said.

Cecil Payne of Morton, hatcheryman, stated that "the goal that the commercial hatcheryman should work for is not to sell his chickens for more money, but to produce them for less." He urged more cooperation among commercial hatcherymen plus improved practices.

Cecil H. Payne of Morton was elected president of the association at the close of the convention.

Other officers elected were: H. F. McCarty, Magee, vice president; P. H. McDonald, New Albany, treasurer; D. T. Irby, Hattiesburg, livestock sanitary board representative; B. C. Rogers, Morton, American Poultry and Hatchery Federation director; Bill Garth, Pelahatchie, Poultry and Egg National Board leader; Fred Gaddis, Forrest, National Broiler Council leader, and Grady Brunson, Meridian, director of turkeys.

Directors elected for a three-year term are Dewey Walters, Columbia; B. M. Anthony, Jackson, and Chester Brewer, Lula.

The association recommended its retiring president for a vice presidency representing his state in the Southeastern Poultry & Egg Assn. Paul Yount of Mississippi State University will continue as secretary.

In the president's report, Mr. Ramzy told the poultrymen they should prove themselves good businessmen in order not to jeopardize getting feed contracts or credit from feed companies, or borrowing money from their banks. He urged members of the group to "be competitive and have a cooperative spirit."

Retail Feed Group Convention Scheduled

MINNEAPOLIS—The 1960 convention of the Northwestern Retail Feed Assn., Inc., has been scheduled for Jan. 17-19 at the Hotel Pick-Nicollet, according to an announcement by Lloyd E. Tobias, president.

The opening day of the convention will be devoted to committee meetings, a meeting of the board of directors and a dinner for the officers and directors of the group. A full program of morning and afternoon sessions is planned for the second day.

Dr. Wise Burroughs, professor of animal husbandry at Iowa State University in Ames, will be an outside speaker or member of a panel on nutrition and livestock management slated for the closing day. Other panel members and the moderator will be members of the poultry and animal husbandry staff of the University of Minnesota.

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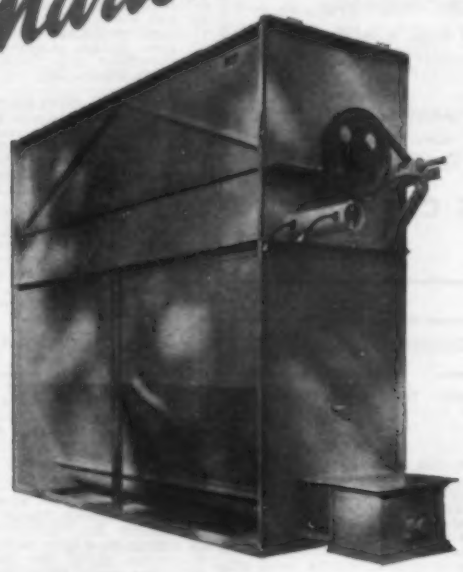

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12½-TON TOLEDO DIAL SUSPENSION hopper scale, like new, 32 inch dial, Model 2500. Address Ad No. 5381, Feedstuffs, Minneapolis 40, Minn.

JAY BEE ALL-IN-ONE PORTABLE FEED mill. Good condition. Reason for selling—change of activities. Address Ad No. 5392, Feedstuffs, Minneapolis 40, Minn.

1955 DAFFIN MOBILE MILL ON 1955 Ford truck. Very good condition. Price $8,950. Write Menton's Feed Service, Box 22, Pemberton, Minn.; Phone 2101.

CHAMPION MOBILE GRINDER AND mixer units. Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

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ONE 30x40 WILLIAMS HAMMERMILL with 200 H.P. motor, 1,750 R.P.M. One 6R36 Gruendler breakdown mill for baled hay with 150 H.P. motor. Napoleon Alfalfa Mills, Napoleon, Ohio.

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ALMOST NEW FORDS MOLASSES BLENder (model 2-rh), 15 H.P. TE motor, 1,500 R.P.M. and Buffalo motor. Complete for $1,200. Wright Feed Mill, David City, Neb.

SALE—SPROUT-WALDRON 335 CU. FT. horizontal ribbon mixer. Type 304 stainless steel dry material handling installation, including: 1,800 cu. ft. weigh hoppers, bucket elevators, shaker and screw conveyors, etc. Perry, 1403 N. 6th St., Philadelphia 22, Pa.

FOR SALE—ENCLOSED MOTORS; RICHardson Scale; truck scales, hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

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Broiler Growers Are Becoming 'Disgruntled'

TRENTON, N.J.—Growers in most areas are becoming disgruntled with low returns from their contracts, according to a recent broiler report by the Northeastern Poultry Producers Council.

According to the report, terms have stiffened and contractors are more insistent on quality of housing and management experience.

"Some areas report growers willing—even anxious—to keep houses full," the report says.

The following is part of the report:

Independent growers still exist and, in a few instances, do relatively well, but the rule is for a gradual shift to contracts. Cutbacks are fairly general, and estimates of idle houses capacity are up.

Shortages and excesses in hatching egg supplies are showing up, sometimes within the same state. Generally, the major producing areas seem a bit short; fringe areas on the long side. Looking ahead six weeks, supplies appear to be about adequate to a little short of anticipated demand. Hatching egg prices are steady.

Broiler prices are expected to weaken a bit in November, then turn up a bit—but all in the low range of 14-17¢. Most reporters base their opinions on the competition from pork, beef and turkeys with the usual seasonal trends. Most feel that cutbacks have not offset these factors.

General Mills Gives R. Nutting Promotion

MINNEAPOLIS—Richard E. Nutting, chief accountant of General Mills for the past 25 years, recently was appointed assistant to C. H. Bell, president. He succeeds Delbert F. Wright, whose appointment as comptroller was announced Nov. 9.

Mr. Nutting joined the Washburn Crosby Co., predecessor of General Mills, in 1922 as a mail clerk and office boy. Soon he moved into the internal auditing department and later into the general accounting department.

When General Mills was formed in 1928, he became assistant chief accountant, responsible to Gordon C. Ballhorn, then chief accountant. Mr. Nutting became the chief accountant in 1934.

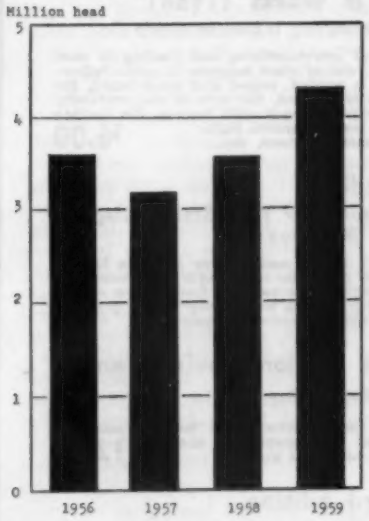
UP OR DOWN

By Dr. Leonard W. Schruben, Agricultural Economist, Kansas State College

Cattle on Feed and Price Patterns

This is the third year in a row that the number of cattle and calves on feed on Oct. 1 has increased. You can get a picture of these changes by looking at Exhibit 1. Here is shown the number of cattle and calves on feed in 13 main feeding states.

Exhibit 1. Cattle and Calves on Feed Oct. 1 in 13 States



What is the cattle picture at the present time? How many cattle on feed this fall and winter? What are price prospects for fed cattle?

At this time it may be well to review some history of cattle price changes. One kind of review would be to figure how many times prices go up or down from any given month to the following month. Such a tabulation has been made and is presented in Exhibits 2 and 3.

Here is how to read Exhibit 2. Find the present month, November, in the first column and read over to the column headed March and you will find a 25. This means that 25% of the time during the period 1947 to 1959 prices of slaughter steers, Chicago, choice grade, went up from November to March.

Suppose you were considering price changes after January. You will note under the February column on the line for January there is a 15. This means that only 15% of the time have February prices been above those of January.

Exhibit 3 is read in the same way as Exhibit 2 except it goes the per cent of times prices went down from the base month to the following month. For example, prices declined 75% of the years from November to March.

At first glance, Exhibits 2 and 3 may appear to be complicated. Of course, there is summarized a considerable amount of information and any table which has so many figures is bound to appear complicated. However, don't let the appearance scare you, because once you have worked through an example you will find the exhibits easy to use. You may wish to keep them on hand as a reference to use during other months of the year.

What about this year? History does not always repeat and as you can see from examining Exhibits 2 and 3 that not all years follow the same price pattern. However, it does appear that cattle prices will be in the down phase for the next year or so. Cattle numbers in the U.S. are expected to exceed 100 million head for the first time in history this year. A sharp dropoff in cattle prices is not expected, but rather a steady to declining price trend appears to be getting underway for 1960.

You should get set to service your cattle feeders during a period of gradual declining cattle prices. If this forecast doesn't materialize, your cattle feeding customers will be even easier to do business with.

EXHIBIT 2. Slaughter Steer Prices: Average price per hundredweight of sales out of first hand, Chicago, choice grade, 1947-59, per cent of times prices went UP from base month to subsequent month.

Base Month	Subsequent Month																						
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
January	15	46	54	69	69	67	58	67	67	67	67	58											
February		77	77	77	69	58	67	75	67	67	58	67	58										
March			69	62	46	67	67	75	67	67	67	58	58	58									
April				54	54	58	58	67	67	67	58	58	58	58	58								
May					46	58	58	75	67	58	58	58	50	58	67	58							
June						75	75	75	67	67	58	67	50	67	67	58	58						
July							67	50	50	67	50	58	42	42	67	50	50	45					
August								75	67	50	50	50	42	42	42	42	42	36	45				
September									42	42	50	42	33	33	25	42	42	36	45	45			
October										33	50	42	33	33	25	33	42	45	45	45	45		
November											50	42	33	25	25	33	50	55	55	55	64	64	
December												58	33	33	58	58	67	64	64	82	82	82	73

EXHIBIT 3. Slaughter Steer Prices: Average price per hundredweight of sales out of first hand, Chicago, choice grade, 1947-59, per cent of times prices went DOWN from base month to subsequent month.

Base Month	Subsequent Month																						
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
January	85	54	46	31	31	33	42	33	33	33	33	42											
February		23	23	23	31	42	33	25	33	33	42	33	42										
March			31	38	54	33	33	25	33	33	33	42	42	42									
April				46	46	42	42	33	33	33	42	42	42	42	42								
May					54	42	42	25	33	42	42	42	50	42	33	42							
June						25	25	25	33	33	42	33	50	33	33	42	42						
July							33	50	50	33	50	52	58	58	33	50	50	55					
August								25	33	50	50	50	58	58	58	58	58	64	55				
September									58	58	50	58	67	67	75	58	58	64	55	55			
October										67	50	58	67	67	75	67	58	55	55	55	55		
November											50	58	67	75	75	67	50	45	45	45	36	36	
December												42	67	67	42	42	33	36	36	18	18	18	27

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DRUGS

(Continued from page 7)

policy—finally cleared up and stated definitely by FDA-ers—drugs which have been removed from 'new drug' status are exempt from the food additive law as 'generally recognized as safe.'

"This exempts five important arsenical products from the food additive law and its Delaney clause. These are: (1) Abbott's arsanilic acid (Pro-Gen); (2) Abbott's sodium arsanilate; (3) Dr. Salsbury's Laboratories' 3-nitro-4-hydroxyphenylarsonic acid (3-Nitro Powder); (4) Salsbury's 4-nitrophenyl-arsonic acid (Histostat), and (5) one of Dr. Salsbury's coccidiostats (Polystat, which contains 3-nitro-4-hydroxyphenylarsonic acid plus other drugs).

"Three other arsenical products are exempted from the food additive law in their present forms by effective NDA's—'prior sanctions.' These are: (1) American Cyanamid's arsenosobenzene (Arsene); (2) Whitmoyer Laboratories' p-ureidobenzenearsonic acid, and (3) Salsbury's 3-nitro-4-hydroxyphenylarsonic acid when used in the Unistat coccidiostat combination.

"FDA-ers concede that 'organic' arsenicals have not been demonstrated to be carcinogenic. Because of the historical association of 'inorganic' forms of arsenic with pre-cancerous lesions when administered to humans in massive doses over long periods of time—which association has not been scientifically proven to be correct (according to industry)—FDA will not consider, for the present, any more NDA's or supplemental NDA's for the three 'new drugs' listed above or any new combinations of the five 'old drugs' listed above until more information is available.

"It is understood that the drug industry is embarking upon a critical review of the literature regarding arsenicals. Results of this literature study might turn out to be useful in the effort by industry to clear these products from all implication under the Delaney clause. Additional toxicological studies on arsenicals in use are also in progress."

TURKEYS

(Continued from page 1)

hatched in October totaled 306,000, 35% less than October, 1958. The January through October hatch of light breed poults was 15,006,000, compared with 12,903,000 hatched during the same period last year.

Cumulative hatch of all turkey poults January through October totaled 85,159,000—3% more than during these months in 1958.

Turkey eggs in incubators on Nov. 1 indicate that the number of heavy breed poults hatched in November will be larger than a year earlier, according to the USDA report. Hatch of light breed poults will be smaller.

FLORIDA

(Continued from page 6)

mark, Monsanto Chemical Co.) to a laying ration," he said. "His work and that at Rutgers indicate that methionine is the first limiting amino acid in practical laying hen rations. Recent studies on this very interesting subject have indicated that the amino acid requirement of the hen becomes more critical from the standpoint of imbalances as we approach very low levels (10-12%) of crude protein."

Coccidiosis Vaccination

Hope that an effective coccidiosis vaccination program for layers can be perfected was expressed by Dr. Snyder.

"While feeding a coccidiostat to broilers will give them sufficient protection to time of marketing, in the case of layers, it is essential that a lasting immunity against coccidiosis be built up," he said.

Dr. Snyder said that one reason for an increased interest in coccidiosis vaccination is that "low-level coccidiostats are not doing a 100% perfect job. At least this is true in certain major broiler growing areas.

"Another reason for increased interest is because a method has not yet been found by which replacement-type chicks can be completely protected from coccidiosis, and, at the same time, be assured of coccidiosis immunity when going into the laying house."

Dr. Snyder noted that there have been "mild breaks" in the coccidiosis vaccination program. "And, further," he said, "we have not found solid immunity to be developed in birds which were thought to have been immune as a result of having undergone a vaccination program.

"Theoretically, at least, the coccidiosis vaccination program has much more to offer than the feeding of a preventive level of coccidiostat," said Dr. Snyder. "In following a coccidiosis vaccination program, the birds are deliberately exposed to various species of coccidia. Assuming that these coccidia are viable, and that repeated coccidia passage is forthcoming, the birds will build up an immunity to the coccidia under question."

Three coccidiosis vaccines are being manufactured by Dorn & Mitchell Laboratories, Inc., a subsidiary of Sterling Drug, Inc., Dr. Snyder said. The three types and the species of coccidia which the vaccines carry are: broiler type, for protection against E. tenella, E. hagani and E. acervulina; commercial layer type, for protection against E. tenella, E. hagani, E. necatrix, E. acervulina and E. maxima, and experimental layer type B for protection against E. tenella, E. hagani, E. necatrix, E. acervulina, E. maxima and E. brunetti.

Steps Recommended

"The following steps," said Dr. Snyder, "are recommended in the use of CocciVac:

"(1) Start chicks on feed containing a recommended coccidiostat.

"(2) Vaccinate in the drinking water three to four days after chicks are housed.

"(3) Continue use of a feed containing a recommended coccidiostat to protect chicks while immunity is developed."

Dorn and Mitchell suggests that Trithiadol be used as the coccidiostat of choice in conjunction with the CocciVac program, said Dr. Snyder. It is suggested that the Trithiadol-medicated feed be discontinued five weeks after vaccination.

Poultrymen who are interested in using a coccidiostat other than Trithiadol should contact the manufacturer of the coccidiostat and get the manufacturer's recommendation both as to the level of the coccidiostat to be used in the feed as well as the length of time during which the coccidiostat is to be fed in conjunction with the coccidiosis vaccination program, Dr. Snyder suggests.

"The acceptance of the coccidiosis vaccination program will no doubt be greater with replacement-type birds than with broilers," Dr. Snyder said. "At least this would appear to be true under present economic conditions. The cost of the layer-type coccidiosis vaccine is approximately 1¢ per bird. This, combined with the cost of the coccidiostat in the feed to five weeks means that it is not until the 12th or 13th week that the coccidiosis vaccination system starts to cost less than the continuous feeding of a coccidiostat."

Antibiotics

Speaking of feeding antibiotics to cattle, Dr. Drain pointed out that "extensive tests have been conducted by experiment stations to evaluate the use of antibiotics in beef cattle feeding regimes. Based on reports from 15 experiment stations during the past nine years, antibiotic feed additives in rations for fattening cattle have stimulated weight gains 4% and improved feed conversion 3%. It is generally thought that antibiotic supplementation will be most advantageous when stress and disease conditions are prevalent. However, the continuous feeding of an antibiotic feed supplement, such as Aureomycin, has consistently improved animal performance."

While appetite is not an infallible guide to the nutritional needs of an animal, certain constituents of mineral mixtures have a marked influence on palatability of the mixtures commonly used with livestock, declared Dr. George Davis.

"Phosphorus appears to have a direct influence upon appetite and therefore consumption of feed and of mineral supplements," he said. "There is some evidence that phosphorus in excess of actual requirements may serve to increase feed consumption. The average mature animal requires between 9 and 13 lb. of elemental phosphorus per year. Half of this may come from a mineral supplement or feed.

"Cobalt has a marked influence upon appetite, but appears to act through maintaining good rumen function. Animals are not good judges of cobalt-containing feeds," said Dr. Davis.

"Copper in the mineral supplement is in much the same category as cobalt. The animals do not have a specific desire for copper. Consequently the inclusion of copper in a mineral supplement must be done with a knowledge of the amount of supplement that may be consumed by the animals."

Cattle Feeding

Dr. Nesheim pointed out that enzymes increased beef cattle gains and feed efficiency on low-moisture corn but not high-moisture corn. Pelleting rations for beef cattle gave high increases when the ration was high in roughage and medium increases in high grain rations.

Hormones and antibiotics gave good improvement in many cattle fattening tests and antibiotics appear to be increasing in use in feedlot finishing of cattle, he said.

DANISH RESEARCHER

(Continued from page 7)

in which replacement of up to 60% of the barley by grain sorghum in the grain ration had no influence on daily gain or feed efficiency, but increasing quantities of milo increased backfat thickness and the "slight of lean" measurement. The decrease in carcass quality was worst when the protein supplement did not include skim milk.

Dr. Claussen said that it will be of the utmost importance to carcass quality of pigs that scientists concentrate on the amino acid requirements of meat production in pigs.

He observed in general, in discussing lean meat production, that the industry cannot expect farmers to produce meaty pigs unless they are paid for the higher costs involved in getting high carcass quality.

Rumen Development

In another conference talk, Dr. R. G. Warner of Cornell told of extensive research work designed to study the fundamental factors influencing the development of the ruminant stomach.

The following, he said, summarizes in what is probably an over-simplified form, the present knowledge of factors governing the development of the rumen:

1. The rumen has an inherent growth potential which is in part related to body growth and unrelated to diet. With milk-fed calves that are allowed no bedding and are fed over an eight-month period, the rumen capacity per unit of body weight increases 5 to 6 fold while the amount of dry rumen tissue per unit of body weight is essentially constant. Rumen papillae remain rudimentary.

2. Dry feed ingestion results in an increase in capacity, an increase in total rumen tissue and a marked development of rumen papillae.

3. The rumen expands in volume in rough proportion to the weight of material it holds on a day-to-day basis. Hay consumption probably results in greater expansion than concentrate consumption because of its slower rate of passage, which results in a continual "piling up" (within limits) of residue. The fact that hay is bulkier and presumably "needs more room" seems to be a less plausible explanation of this phenomenon.

4. The muscle layer of the rumen develops in response to an increase in the weight of rumen contents which it must support and knead.

5. Rumen papillae grow in response to stimulation by the volatile fatty acids derived from the rumen fermentation. The fact that the order of effectiveness of the three principal acids is butyrate>propionate>acetate indicates that they elicit their effect by stimulating the blood flow in the mucosa and/or by being metabolized by the rumen mucosa.

6. The rumen papillae will disappear unless an active fermentation is maintained in the rumen. Under practical conditions this means maintaining dry feed consumption.

7. Based on the criteria used, there is no reason to discriminate against grain feeding when considering the structural development of the rumen.

TOP OF THE HOPPER

(Continued from page 2)

THERE HAS BEEN AN INCREASE in the number of practicing veterinarians who have gone into the feed business, some industry observers say. And some feed firms are said to be actively soliciting veterinarians to do business as feed dealers. Some of the veterinarian-dealers have rather substantial milling operations, too.

A veterinarian's going into the feed business presumably would not be considered ethical by the profession, but some persons regard it as a sign of the times. Vets who feel they have lost business to feed service men may figure they should get into the feed business themselves. Also, in this highly technical era of feeding, a veterinarian who is a dealer relieves his feed manufacturer-supplier of veterinary service problems in that particular area.

At any rate, whether or not the number of veterinarians involved as dealers continues to grow, it does appear certain that professional veterinarians employed directly by feed manufacturers and ingredient suppliers will continue to grow in number and importance as technical service requirements increase.

A FEED PLANT MANAGER observed the other day that his plant has 305 electric motors. Increased electric power use, he noted, has resulted from such things as more complex feeds, more automation, more ingredients and more forms of feed. He indicated that he wasn't necessarily questioning the wisdom of the use of all of these motors, but he said he was taking another look at his mill's power requirements and raising at least some questions on number and size of motors as used in current methods of processing feed.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

A AND D FEEDING OIL

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55-gal. drums, f.o.b. Chicago, drums included.

New York: Demand and supply good; trend firm; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13½@15½¢, 1,500 A 16½@17¢, 2,250 A 17½@20¢, 3,000 A 19@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢; f.o.b. Massachusetts, New York or Pennsylvania.

Boston: Demand good; supply adequate; 300 D, 2,250 A 19½¢ lb.; 300 D, 3,000 A 21¢; 300 D, 1,500 A 18¢; 300 D, 750 A 16¢; 400 D, 3,000 A 21½¢; 75 D, 750 A 15½¢.

Denver: Demand fair; trend steady; supply ample; 2,250 A, 300 D 22¢ lb., f.o.b. Denver.

Minneapolis: Demand fair; supply ample; 10,000 A 34½¢ lb.; 300 D, 2,250 A 19¢ lb.; 300 D, 1,500 A 17½¢ lb.; 300 D, 750 A 16¢ lb.

ALFALFA MEAL

Omaha: Demand fair; trend strong; supply ample; 17% dehydrated, 100,000 A units, bulk pellets $54; sacked meal $59, Omaha basis.

Boston: Demand active; supply fair; dehydrated, 17% $72; suncured, 13% $49, nominal.

Chicago: Demand and supply fair; trend steady; carlots, 17% protein, dehydrated, 100,000 units vitamin A guaranteed $64@65.50.

Portland: Demand good; trend firm; supply limited; suncured, 15% $45; dehydrated $66.40.

New Orleans: Demand fair; trend steady; supply adequate; vitamin A, 17% $68@69; pellets $65@66.

Memphis: Demand fair; trend steady to higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $67.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $69.50.

Los Angeles: Demand steady; trend firm; supply adequate; dehydrated meal, 17% protein, 100,000 A $52@53, bulk; dehydrated pellet meal, 17% protein, 100,000 A $54@55, bulk; suncured meal, 15% protein $46@47, bulk; suncured crumbles, 15% protein $48@49, bulk.

Ft. Worth: Demand fair; supply sufficient for dehydrated, light offerings for suncured; dehydrated, 17%, 100,000 A $65.80 rail, $65 truck, November; suncured 13% ¼-in. grind No. 1 $48@50, truck or rail.

Philadelphia: Demand slow; trend unsettled; supply fair; 17% dehydrated $69.50.

Denver: Demand good; trend strong; supply short; dehydrated $55.

Minneapolis: Demand good; supply firm; up $2 from last week; 17% dehydrated, 100,000 units vitamin A, reground pellets $60, bulk, Minneapolis; ¼-in. pellets $59; oiled reground pellets $62, sacks $4 more.

St. Louis: Demand slow; trend firm; supply limited; suncured, 13% fine $46; dehydrated, 17%, 100,000 A, demand slow, trend firm, supply ample $62.

Kansas City: Market continues strong with prices up another $2 for next week shipment; blenders offering only in limited way, shipping mostly against bookings; dehydrated alfalfa meal with 17% protein and 100,000 units of vitamin A guaranteed on arrival: reground pellets $59 sacked, pellets $54 bulk; meal with 18% protein and 125,000 A $63, sacked; meal with 20% protein and 150,000 units of A $69, sacked; suncured meal demand slow, supplies limited, prices unchanged, No. 1 fine ground $43, No. 1 ¼-in. $37@38, No. 2 ¼-in. $35@36, sacked.

ANIMAL FAT (STABILIZED)

Chicago: Demand fair; trend easier; supply ample; tank truck or carlots, bleachable fancy tallow $6.12½ cwt.; yellow grease $6 cwt.

Ft. Worth: Demand good; supply scarce; prime tallow, tank cars 6¢ lb.; drums 8¾¢ lb., f.o.b. north Texas packing plants with returnable drums.

Ogden: Supply normal; $5.50 cwt.

San Francisco: Demand fair; supply ample; bleachable fancy 6¼¢ lb.; yellow grease 5¼¢ lb.

Boston: Demand good; supply adequate; tallow 6½¢ lb.; yellow grease 5¾¢ lb.

New Orleans: Demand fair; trend easy; supply adequate; 6@6½¢ lb., tank cars.

St. Paul: Demand good; supply ample; trend steady; bleachable fancy tallow, steady at 6¢ lb., f.o.b. producer's plant.

Louisville: Demand fair; trend stronger; supply good; bleachable white 6¢ lb.; white tallow 6¼¢ lb.; yellow grease 5¾¢ lb.

Kansas City: Demand slow from mixers; trend steady; supply ample; prime tallow 5¾¢ lb., tank cars.

Atlanta: Demand good; trend upward; supply steady; 5¢ lb., f.o.b. Georgia and Alabama producing mills.

BARLEY FEED

New Orleans: Demand slow; trend unchanged; supply ample; $50@51.

Ogden: Supply average; rolled $48@53; whole barley $40@45.

Los Angeles: Demand fair; trend easier; supply adequate; standard rolled $3.18 cwt.; standard ground $3.18 cwt.

Portland: Demand good; trend firm; supply ample; rolled $56; ground $54.

Chicago: Demand fair; trend steady; supply adequate; $35, carlots.

Milwaukee: Demand good; supply fair; needles 90¢@$1.02 cwt.; ground screenings $25.

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

Baltimore: Demand fair; supply adequate; trend unchanged; $45.50, carlots.

San Francisco: Demand fair; rolled $59; ground $58.

Boston: Demand slow; supply adequate; $46.

Philadelphia: Demand slow; supply fair; $46.50.

Denver: Demand and trend steady; supply adequate; rolled $1.90 cwt.

BENTONITE (SODIUM)

Chicago: Demand fair; trend steady; supply ample; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots, 80 granular $13.50 net; 200 mesh, fine $13.25 net.

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50; 200 mesh fine $31.

Denver: Demand fair; trend steady; supply ample; $24.50, f.o.b. Denver.

BLOOD FLOUR

Louisville: Demand slow; trend firm; supply good; $80@85.

BLOOD MEAL

Ogden: Supply average; $90 in 100-lb. bags, f.o.b. Ogden.

Portland: Demand good; trend firm; supply ample; $115.

Omaha: Demand good; trend firm; supply fair; $95, Omaha basis.

Chicago: Demand good; trend upward; supply moderate; carlots, guaranteed 80% protein, 100-lb. bags $117.50.

San Francisco: Demand fair; supply ample; $6 a unit of ammonia.

New Orleans: Demand dull; trend steady; supply ample; $80@85.

Los Angeles: Demand good; trend steady; supply adequate; $5.50 a unit of ammonia.

Louisville: Demand slow; trend steady; supply good; $80@85.

BONE MEAL (STEAMED)

San Francisco: Demand good; supply ample; $75.

Portland: Demand good; trend firm; supply ample; $102.

Ft. Worth: Demand fair; supply light; $90, f.o.b. Ft. Worth, local manufacture.

Chicago: Demand good; trend higher; supply fair; carlots, 100-lb. bags $100.

Boston: Demand steady; supply light; $105.

Los Angeles: Demand fair; trend unchanged; supply limited; imported $79, 20-ton lots.

Cincinnati: Demand fair; trend steady; supply ample; $100, Cincinnati.

New Orleans: Demand fair; trend steady; supply ample; $80@85.

Denver: Demand good; trend firm; supply very tight; $111.50, Denver.

Louisville: Demand dull; trend firm; supply light; $80@85.

BREWERS DRIED GRAINS

Los Angeles: Demand fair; trend firm; supply adequate; $50 bulk, $54 sacked.

Milwaukee: Demand good; supply fair; $49.50.

San Francisco: Demand fair; supply ample; $54.

Ft. Worth: Demand slow; supply scarce for nearby shipment; 26% protein $50@51, November.

Chicago: Demand improved; trend higher; supply light; carlots $49.50.

Boston: Demand active; supply tight; Canadian 22% $59.

New Orleans: Demand fair; trend firm; supply good; $48@49.

Cincinnati: Demand poor; trend steady; supply adequate; $51.

Philadelphia: Demand and supply fair; trend unsettled; $60.50.

Louisville: Demand good; trend strong; supply reasonable; $50.

St. Louis: Demand good; trend higher; supply light; $49.

BREWERS DRIED YEAST

Los Angeles: Demand slow; trend unchanged; supply adequate; 10¢ lb. 5-ton lots; 11¢ lb. 1-ton lots; 12¢ lb. less than ton lots.

Omaha: 10½¢ lb.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots; 9¾@12½¢ lb., l.c.l.

Milwaukee: Demand fair; trend steady; supply ample; 10@11¢ lb., carlots; 10½@12½¢ lb., ton lots.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

Boston: Demand and supply steady; 10¢ lb.

San Francisco: Demand fair; supply good; 10¢ lb.

Portland: Demand good; supply ample; trend unchanged; 8½¢ lb.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

Denver: Demand light; trend steady; supply ample; 8¢ lb., f.o.b. Golden, Colo.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

Louisville: Demand slow; trend steady; supply good; 10@10½¢ lb.

BUTTERMILK (CONDENSED)

Chicago: Demand fair; trend steady; supply ample; $3.25@3.50 cwt., carlots.

San Francisco: Demand fair; supply good; $5 cwt.

Boston: Demand and supply steady; 3.95¢ lb.

Ogden: Supply normal; $4.40, 100-lb. drum.

New Orleans: Demand slow; trend unchanged; supply adequate; $4.25@4.30 cwt.

Los Angeles: Demand slow; trend unchanged; supply adequate; 5½¢ lb., 100-lb. lots; 4½¢ lb., 500-lb. lots.

Philadelphia: Demand slow; supply light; $4.25 cwt.

Louisville: Demand very slow; trend steady; supply light; $4.25 cwt.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight)

New York: Crystals $16.28, flour $10.28.
Buffalo: Crystals $17.11, flour $11.11.
Toledo: Crystals $18.96, flour $12.96.
Boston: Crystals $17.63, flour $11.63.
Lime Crest, N.J.: Crystals $11.50, flour $5.50.

CALCIUM CARBONATE

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100-lb. bags $9.54; bulk, in hopper cars $7.54; bulk, in boxcars $8.04; granular grind $1 premium.

Los Angeles: Demand slow; trend unchanged; supply adequate; flour $10.15, 20-ton cars; meal $11.15, 20-ton cars.

Cincinnati: Demand fair; trend steady; supply adequate; $8@9 cwt.

Minneapolis: Fine grind, 50-lb. bags $12.25, 100-lb. bags $11.50; bulk, boxcar $10; bulk, hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

CHARCOAL

San Francisco: Demand steady; supply ample; $141.

Chicago: Demand steady; trend firm; supply ample; $110, carlots, in 50-lb. multiwalls.

Boston: Demand and supply steady; $110.

Los Angeles: Demand fair; trend unchanged; supply adequate; hardwood poultry $156, less than ton lots; $144.40, ton lots.

COCONUT OIL MEAL

San Francisco: Demand good; supply tight; solvent $67.50, bulk.

Portland: Demand good; trend higher; supply light; $78.50.

Los Angeles: Demand limited; trend firm; supply adequate; copra cake $70@72, bulk.

COD LIVER OIL (FORTIFIED)

Boston: Demand good; supply fair; 600 D, 2,250 A 20½¢ lb.; 300 D, 3,000 A 22¢; 300 D, 2,250 A 20¢; 600 D, 1,500 A 19¢; 300 D, 1,500 A 18½¢.

New York: Demand and supply good; trend firm; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 18½@20¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 500 ICU, 1,500 A 17½@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

New York: Demand poor; trend lower; supply tight; 2¾¢ lb., f.o.b. eastern shore.

Boston: Demand and supply good; 4¾¢ lb.

New Orleans: Demand light; trend easy; supply normal; 50% solid $50@55, f.o.b. Gulf.

Los Angeles: Demand slow; trend unchanged; supply adequate; 3¼¢ lb.

Denver: Demand poor; trend weak; supply ample; dried $167, Denver.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $50.90, meal $64.90.
Atlanta: Feed $56.98, meal $70.98.
Birmingham: Feed $55.64, meal $69.54.
Boston: Feed $55.84, meal $69.84.
Chicago: Feed $44, meal $58.
Cleveland: Feed $52.14, meal $66.14.
Denver: Feed $54.51, meal $68.51.
Ft. Worth: Feed $52.96, meal $66.96.
Indianapolis: Feed $49.36, meal $63.36.
Kansas City: Feed $44, meal $58.
Louisville: Feed $51.21, meal $65.21.
New Orleans: Feed $54.20, meal $68.20.
New York: Feed $56.43, meal $69.43.
Norfolk: Feed $54.71, meal $68.71.
Philadelphia: Feed $55.02, meal $69.02.
Pittsburgh: Feed $52.96, meal $66.96.
St. Louis: Feed $44, meal $58.
Decatur, Ill.: Feed $37.75, meal $54.75.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $50.

Louisville: Demand very dull; trend steady; supply light; $53.44.

COTONSEED OIL MEAL

Omaha: Demand slow; trend steady; supply ample; 41% solvent $69.20, bulk, delivered Omaha.

Ft. Worth: Demand good; offerings light; 41% old process $70; solvent 1% fat added $69.50, November-January; $68.50, February-April, nominal; pellets $2 additional; cottonseed hulls $18@20, sacked.

San Francisco: Demand good; supply tight; 41% $67, bulk; 44% $70, bulk.

Chicago: Demand fair; trend firm to easier; supply ample; Memphis basis, carlots, hydraulic $66.50, solvent $64.50.

Portland: Demand good; trend higher; supply light; $73.

Boston: Demand slow; supply fair; $87.60.

Cincinnati: Demand poor; trend steady to higher; supply somewhat limited; $73.

Los Angeles: Demand good; trend very firm; supply ample; $72, bulk.

Wichita: Demand good; supply insufficient; 41% old process $76.

Philadelphia: Demand slow; trend unsettled; supply very scarce; $79.

Ogden: Supply normal; 41% $85@90.

New Orleans: Demand good; trend steady; supply adequate; $76@76.50.

Memphis: Demand and supply good; trend steady; prime 41% protein, old process $66; new process, 41% solvent $64.

Denver: Demand good; trend steady; supply fair; 2% fat $72.40.

Louisville: Demand slow; trend easy; supply good; old process $70.50, new process $69.50.

St. Louis: Demand slow; trend steady; supply adequate; solvent $74.

Kansas City: Demand slow in this area; trend steady; supply moderate; old process $69, sacked, Memphis; solvent $67.

Atlanta: Demand good; trend steady; supply limited; 41% $69.50, f.o.b. South Carolina and Georgia producing mills.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL (POWDERED)

New York: Demand and supply good; trend firm; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

Kansas City: Demand fair; trend steady; supply adequate; 1,500 ICU 9¾¢ lb.; 3,000 ICU 11½¢ lb.

D ACTIVATED PLANT STEROL (POWDERED)

Chicago: Demand fair; supply ample; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12% $53, f.o.b. Tupelo in 100-lb. multiwall bags, $50 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $71.80 (or $3.99 per unit of P), f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Coronet, Fla.: Carload, bagged $66.25 and bulk $63.25; truck load, bagged $67 and bulk $64, f.o.b. Coronet, Fla.

Cincinnati: 18% phosphorus $84.02; 13% phosphorus $66.96, f.o.b. Cincinnati.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $74.35 net ton, f.o.b. Houston; 100-lb. multiwall bags $71.35, bulk.

DICALCIUM PHOSPHATE

Cincinnati: 18½% phosphorus $95.15, f.o.b. Cincinnati.

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Columbia, Tenn: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Carload and truckload, bagged $80.50, bulk $77.50, f.o.b. Texas City, Texas.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $86 (or $4.65 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices: for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Portland: Demand good; supply ample; trend unchanged $115.

Denver: Demand fair; trend steady; supply ample; $80.50, f.o.b. Texas City.

DISTILLERS DRIED GRAINS

Boston: Demand good; supply fair; dark $61, medium dark $60.

San Francisco: Demand fair; supply ample; solubles $85.

Cincinnati: Demand poor; trend steady; supply adequate; $46.50.

Philadelphia: Demand slow; supply very light; $63.

Louisville: Demand fair; trend strong; supply good; bourbon grains: light $52@53, dark $53@54, solubles $77.

DRIED BEET PULP

Ft. Worth: Demand slow; supply moderate; carlots, 50-lb. papers $51.70, November-December, delivered Ft. Worth.

Portland: Demand good; supply ample; trend unchanged; $56.40.

Milwaukee: Demand good; supply fair; plain $43.50, molasses $43.50.

San Francisco: Demand good; supply fair; $42.80, bulk.

Los Angeles: Demand and trend steady; supply ample; $47.40@48.50, bulk.

New Orleans: Demand fair; trend steady; supply adequate; $51@52.

Ogden: Supply normal; $45@50.

Boston: Demand and supply fair; domestic $50.50; Canadian $51.

Denver: Demand excellent; trend very strong; supply slightly shorter; $32, bulk.

Atlanta: Demand fair; trend upward; supply limited; $55.50, delivered.

DRIED BUTTERMILK

Chicago: Demand fair; trend steady; supply good; carlots, medium acid $11@11.50 cwt.; sweet cream $11.50@12 cwt.

San Francisco: Demand fair; supply ample; 11½¢ lb.

Milwaukee: Demand good; supply fair; $14 cwt., nominal.

Boston: Demand good; supply short; 14¢ lb., nominal.

Ogden: Supply normal; $8.50, 100-lb. bag.

New Orleans: Demand fair; trend steady; supply ample; $12@12.50 cwt.

Los Angeles: Demand slow; trend unchanged; supply adequate; 12¢ lb.

Louisville: Demand slow; trend steady; supply normal; $12@13 cwt.

DRIED CITRUS PULP

San Francisco: Demand and supply fair; meal $49.

Boston: Demand spotty; supply adequate; $52.

New Orleans: Demand fair; trend easy; supply normal; $32.50@35, f.o.b. Florida points.

Los Angeles: Demand good; trend steady; supply limited; orange pulp $41, bulk; lemon pulp, none available.

Atlanta: Demand good; trend steady; supply limited; $32.50, f.o.b. Florida producing mills.

DRIED SKIM MILK

New Orleans: Demand slow; trend unchanged; supply ample; $13@13.50 cwt.

San Francisco: Demand and supply fair; 13½¢ lb.

Chicago: Demand and supply fair; trend steady; $12@12.50 cwt., carlots.

Boston: Demand good; supply tight; 13¢ lb.

Portland: Demand slow; supply ample; trend unchanged; 13¢ lb.

Ogden: Supply normal; $15.15, 100-lb. drum.

Milwaukee: Demand good; supply fair; nominal $14 cwt.

Los Angeles: Demand slow; trend unchanged; supply adequate; 14¢ lb., less than ton lots; 13¾¢ lb., ton lots.

Cincinnati: Demand fair; trend steady; supply adequate; 11@11½¢ lb.

Philadelphia: Demand slow; supply light; $12.50 cwt.

Minneapolis: Scarce supply; demand good; trend steady; $13.75.

Louisville: Demand dull; trend steady; supply normal; $13@13.50 cwt.

DRIED WHEY

Cincinnati: Demand fair; trend steady; supply adequate; $6.15 cwt.

Wichita: Demand light; supply ample; $6.50 cwt.

Philadelphia: Demand slow; supply light; $6.50 cwt.

Portland: Demand slow; supply ample; trend unchanged; $6.80 cwt.

Ogden: Supply normal; $6.90, 100-lb. bag.

Boston: Demand and supply steady; 5½¢ lb.

Ft. Worth: Demand fair; supply adequate; carlots, standard $6, sacked, delivered Ft. Worth; $6.25 ton lots, f.o.b. warehouse, Ft. Worth.

Chicago: Demand fair; trend unchanged; supply adequate; $5.75@6 cwt., carlots, f.o.b. plant.

San Francisco: Demand steady; supply good; $5.75 cwt.

New Orleans: Demand good; trend easy; supply ample; $6@6.50 cwt.

Los Angeles: Demand slow; trend unchanged; supply adequate; $5.93 cwt., carloads; $6.23 cwt., l.c.l.

Denver: Demand fair; trend steady; supply ample; $6.50 cwt.

Minneapolis: Demand very good, but supply tight; trend steady to stronger; $5.50 cwt.

Louisville: Demand slow; trend steady; supply normal; $6.50 cwt.

Kansas City: Demand fair; trend steady; supply light; $5.50 cwt., producers' points, for regular or partially delactosed.

FEATHER MEAL (HYDROLYZED)

Boston: Demand steady; supply tight; $30, f.o.b. Maine.

Ft. Worth: Demand slow; supply sufficient; 85% to 87% protein $73@78, f.o.b. trucks, north Texas plants.

Los Angeles: Demand slow; trend unchanged; supply adequate; $1 a unit of protein.

Atlanta: Demand good; trend upward; supply ample; $75, bulk, f.o.b. Georgia and Alabama producing mills.

Salisbury, Md.: Demand spotty; supply adequate; $86, bulk, f.o.b.

FISH MEAL

Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $166@168.

New Orleans: Demand dull; trend steady; supply ample; menhaden 60% $127.50@130; scrap $124@126, f.o.b. Gulf.

Ft. Worth: Demand fair; supply limited on menhaden, sufficient on Peruvian; 60% menhaden $136; 65% Peruvian $135, nominal, delivered Ft. Worth.

Milwaukee: Demand good; supply fair; 60% $155.

Omaha: Demand and trend fair; supply ample; 60% menhaden $140.

Chicago: Demand further improved; supply ample; trend generally higher; carlots, menhaden, eastern $123 and scrap $119; Gulf $123@129 and scrap $119@124; Canadian herring meal $1.75@1.80 a unit of protein.

San Francisco: Demand slow; supply ample; $1.82½ a unit of protein.

Los Angeles: Demand slow; trend weaker; supply adequate; local production, 60% protein $1.80 a unit.

Boston: Demand and supply steady; $130.

Portland: Demand slow; trend lower; supply ample; $1.80 a unit.

Cincinnati: Demand fair; trend steady; supply adequate; $160.

Denver: Demand poor; trend weak; supply ample; $2.15 a unit of protein, f.o.b. West Coast.

Louisville: Demand slow; trend steady; supply light; $140@150.

Minneapolis: Gulf menhaden, supply ample; demand remains slow; $140@142, delivered Minneapolis; 60% blended, West Coast, down from last week to $135@145; 70% herring $1.75 a unit of protein, f.o.b. West Coast.

Atlanta: Demand fair; trend steady; supply limited; 60% menhaden $119@123, f.o.b. Atlantic ports.

HAY

Portland: Demand good; supply ample; trend unchanged; $34.

Ft. Worth: Demand fair for alfalfa, practically nil for prairie and Johnson grass; supply sufficient; carlots, baled, No. 1 alfalfa $36@38, No. 2 $34@36; No. 2 prairie $24@26; No. 2 Johnson grass $22@24, delivered Texas common points.

Los Angeles: Demand slow with moderate offerings; U.S. No. 1 $36@37; U.S. No. 2 leafy $33@34; U.S. No. 2 green $34@35; U.S. No. 2 $30@31.

Ogden: Supply normal; $1.25@1.35 a bale; $25 ton in the barn.

Boston: Demand and supply steady; No. 2 timothy $41@43.

Cincinnati: Demand poor; trend steady; supply adequate; No. 1 timothy $24@25; No. 1 red clover $26@27; alfalfa, first cutting $32, second cutting $25; clover mixed $27.50; wheat or oat straw $18@20.

Philadelphia: Demand slow; supply light; $24@25.

Wichita: Demand good; supply sufficient; prairie $20; alfalfa $25@27.50.

Denver: Demand fair; trend good; supply ample; alfalfa, baled, new hay $30, third cutting.

Louisville: Demand for hay slow, straw fair; trend of hay and straw steady; No. 1 hay, any variety of local $30@32, No. 2 $28@30; straw $20.

HOMINY FEED

Milwaukee: Demand good; supply tight; $45.50, nominal, Milwaukee.

Chicago: Demand and supply fair; trend slightly higher; $45.50, nominal, carlots.

Boston: Demand fair; supply adequate; $56.

New Orleans: Demand fair; trend steady; supply ample; $45.50@46.

Memphis: Demand poor; trend steady; supply ample; white $45; yellow $45.

Cincinnati: Demand poor; trend steady; supply adequate; $46.50.

Louisville: Demand dull; trend poor; supply ample; $42.

St. Louis: Demand slow; trend steady; supply limited; yellow $45.50.

Kansas City: Demand fair to good, with interest from Pacific Coast; trend firmer; supply light; $34.50@35, bulk, for yellow; white $1 less.

LINSEED OIL MEAL

Cincinnati: Demand poor; trend steady; supply adequate; new process $91; old process $95.

Philadelphia: Demand and supply fair; trend unsettled; 34% $96.

Chicago: Demand and trend steady; supply ample; Minneapolis, carlots, solvent $72.50, expeller $77.

Boston: Demand fair; supply light; $94.50.

New Orleans: Demand slow; supply ample; trend strong; $84.50@85.

San Francisco: Demand fair; supply ample; $74.50, bulk.

Portland: Demand good; supply light; trend unchanged; $88.

Ft. Worth: Demand slow; supply moderate; 34% protein, new process $92@93, rail.

Omaha: Demand slow; trend steady; supply tight; 34% solvent $77.80, bulk; 32% old process $82.30, Omaha basis.

Milwaukee: Demand good; supply fair; old process $87.50; new process $83.

Wichita: Demand fair; supply sufficient; 34% $89.20.

Los Angeles: Demand steady; trend firmer; supply limited; local production, 31% protein $72, bulk.

Denver: Demand very poor; supply tight, small crop; trend strong; $91.94.

Minneapolis: Little activity; supply scarce; demand fair to poor; new process $73@73.50, November-December; $75.50, January-March; old process $77@78.50; $72 bulk, Minneapolis.

Louisville: Demand slow; trend steady; supply normal; old process $95; new process $91.

Kansas City: Demand slow in this area; trend about steady; supply tight; solvent meal $72, bulk, Minneapolis; old process $76.50.

LIVER AND GLANDULAR MEAL

Omaha: Demand good; trend firm; supply short; 65% $190, Omaha basis.

MALT SPROUTS

Milwaukee: Demand good; supply fair; oddweights $35.50; evenweights $38.50.

Boston: Demand and supply limited; Canadian $48.50.

New Orleans: Demand fair; trend easy; supply ample; $40@42.

Chicago: Demand fair to good; trend irregular; supply ample; carlots, No. 1 uneven bags $34.50, bulk $30.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $43.

MEAT AND BONE MEAL

Cincinnati: Demand good; trend steady; supply fair; 50% meat and bone scraps $77, Cincinnati.

New Orleans: Demand slow; trend easy; supply ample; $80@85.

New York: Demand good; trend upward; supply fair; 50% $70, 55% $77.50, bulk; 50% $73, 55% $80.50, sacked.

San Francisco: Demand fair; supply ample; $1.55 a unit of protein.

Omaha: Demand and trend fair; supply ample; $72.50.

Boston: Demand active; supply fair; $1.20 a protein unit; converted 50% $72.50.

Portland: Demand slow; supply ample; trend unchanged; $1.45 a unit of protein.

Ft. Worth: Demand good; supply ample; bulk, meat and bone, 50% $72.50, f.o.b. Ft. Worth.

Ogden: Supply normal; $80 in 100-lb. bags.

Los Angeles: Demand steady; trend firmer; supply moderate; 50% protein $1.65 a unit, bulk.

Chicago: Demand fair; trend steady; supply ample; carlots, 50% protein, 100-lb. bags $80.

Wichita: Demand good; supply sufficient; 50% $80, f.o.b. plant; 55%, no quotations, no offerings.

Denver: Demand good; trend firm; supply ample; 50% $67.50, bagged, truck lots; $65, bulk lots.

Louisville: Demand fair; trend steady; supply good; $80@85.

St. Louis: Demand good; trend steady; supply ample; $77.

St. Paul: Demand slipping; supply ample; down to $73@75 from $75@78 last week.

Kansas City: Demand slow; trend easier; supply fairly tight; 50% meat and bone meal $75, sacked.

MILLFEED

Minneapolis: Generally improved demand; supplies adequate; bran up to $38@38.50 from $37; standard midds. still at $36.50; red dog $43.50, down from last week.

Kansas City: Demand showing some improvement after weak period; prices steadier; supply still adequate; bran $35.50@36, shorts $35.50@36, sacked; middlings $32.50@33, bulk.

Wichita: Demand fair for bran, poor for shorts; supply sufficient; basis Kansas City; bran $36.25@36.75, shorts $36.25@36.75.

Ft. Worth: Demand fair; supply sufficient; carlots, burlaps, bran $44@44.50; gray shorts $44@44.50; bulk middlings $41.50, delivered Texas common points.

Chicago: Action in the local millfeed market during the past week was somewhat the reverse of a week earlier. Demand dropped, especially at the higher asking prices for deferred shipment, and this seemed to have an adverse impact on the call for more nearby shipment. Most of what was moving was for nearby. Quotations per ton, carlots: standard bran, sacked $43 and bulk $36.50; standard midds., sacked $40.50 and bulk $36.50; red dog, sacked $47.50 and bulk $43.50.

Omaha: Demand slow; trend easy; supply ample; sacked bran $36; sacked gray shorts $36; bulk standard midds. $33; all Omaha basis.

Cincinnati: Demand fair; trend lower; supply adequate; bran $43, middlings $46.

Memphis: Demand fair; trend steady to lower; supply ample; wheat bran $43.30, sacked; gray shorts $43.30, sacked; standard midds. $39.70, bulk.

St. Louis: Sacked, bran $40.50@41, shorts $40.50@41; bulk, bran $36.50@37, shorts $38@38.50, middlings $37.50@38.

Louisville: Demand fair; trend easy; supply good; bran $46.60, mixed feed $47.10, shorts $48.10, middlings $47.80.

Philadelphia: Demand and supply fair; trend unsettled; bran $49, standard midds. $51, red dog $58.

Boston: Demand slow; supply ample; bran $49, middlings $50.

New York: Demand and supply good; trend steady; bran $50.50@51; standard midds. $52@52.50.

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Kansas City, St. Louis, Chicago, Buffalo, Omaha, Toledo, Columbus, Fort Worth, Portland, Boston, Galveston, Enid, Minneapolis, Norfolk, San Francisco, Nashville, Louisville, Memphis, Houston

New Orleans: Demand good; trend easy; supply ample; sacked, bran $48.50@49.25, shorts $49.50@50.25; bulk, bran $43.50@44.25, shorts $45.50@46.25, middlings $44.50@45.25.

Denver: Demand fair; trend steady to slow; supply adequate; shorts $39.75, bran $39.75, mill run $39.75.

Ogden: Supply normal; to Utah and Idaho: red bran and mill run $45, middlings $50; to Denver: red bran and mill run $52, middlings $57; to California: red bran and mill run $52.50, middlings $57.50, f.o.b. San Francisco and Los Angeles.

Los Angeles: Standard mill run $46.50, bulk, demand slow, weaker trend, very plentiful; red bran $51@51.50, bulk, demand slow, weaker trend, ample supplies.

Portland: Demand good; trend firm; supply ample; $41.

San Francisco: Demand good; supply tight; millfeed $48.50, bulk; red bran $52.50, bulk.

MINERAL FEED

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Ogden: Supply average; $113 in 50-lb. blocks; $103, granular, 50-lb. bags.

Ft. Worth: Demand fair; supply sufficient; all-purpose granules $90, block $97; mineral phosphorus 6% granules $106, block $113; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules $87, phosphorus 2% $77 (in 50-lb. paper bags).

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Portland: Demand slow; supply ample; trend unchanged; $45.

Wichita: Demand heavy; supply adequate; all-purpose with iodine, 50-lb. blocks $97.50, 100-lb. bags $92.50, f.o.b. plant.

Denver: Demand fair; trend steady; supply ample; $100.

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

MOLASSES

Los Angeles: Demand good; trend steady; supply ample; $20, bulk, f.o.b. tank cars; $20.25, bulk, f.o.b. tank trucks.

Boston: Demand seasonal; supply plentiful; 16½¢ gal. in tank cars.

New York: Demand fair; trend steady; supply good; blackstrap 16¢ gal., tank cars, tank wagons, f.o.b. New York.

San Francisco: Demand and supply good; $20, f.o.b. cars, Richmond, Cal.

Ft. Worth: Demand good; supply sufficient; blackstrap 11¼¢ gal., f.o.b. Houston; delivered Ft. Worth, truck $25.94, seller's market price on date of shipment.

Memphis: Demand fair to good; trend steady to higher; supply ample; blackstrap 10@10¼¢ gal., tank car, f.o.b. New Orleans; $26 ton, delivered Memphis, truck.

Cincinnati: Demand fair; trend steady; supply adequate; 10¢ gal., New Orleans.

New Orleans: Demand good; trend steady; supply ample; 10¢ gal., tank cars and trucks; 600-lb. customers' drums $7.05.

Denver: Demand fair; trend steady; supply ample; 10½¢ gal., New Orleans; $17.95 ton, New Orleans; $20 ton, West Coast.

Minneapolis: Continued improvement in demand; supply adequate; trend steady; $31, tank truck, delivered.

Kansas City: Demand slow; trend easier; supply adequate; 9¾@10¢ gal., tank cars, New Orleans, with most quotations at the higher level.

Louisville: Demand fair; trend steady; supply good; 10¼¢ gal., tank car lots, f.o.b. Gulf ports.

St. Louis: Demand slow; trend steady; supply ample; 10¢ gal., New Orleans.

Atlanta: Demand fair; trend steady; supply ample; citrus $15@18, f.o.b. Florida producing mills.

NIACIN

New York: Trend steady; $6 kilo, 10-kilo lots; $6.20 kilo, 5- and 2½-kilo lots; $6.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Memphis: Demand poor; trend steady to higher; supply scarce; 3½% protein, reground oat feed $24.75.

Chicago: Demand good; trend steady; supply ample; carlots, reground oat feed $17; No. 1 fine ground feeding oatmeal $80; feeding rolled oats $80@82.

Portland: Demand slow; supply ample; trend unchanged; rolled $66, ground $62, cleaned $64.

Cincinnati: Demand poor; trend steady; supply adequate; reground oats $30; pulverized white oats $55.

Los Angeles: Demand slow; trend firm; supply adequate; local production, pulverized $66.

Ft. Worth: Demand fair; supply sufficient; oat millfeed $45.70; reground $25.70, November.

Philadelphia: Pulverized white demand slow, supply fair $54; domestic demand quiet, supply light $28; Canadian oat feed demand slow, supply light $29.50.

Minneapolis: Slightly improved demand; supply ample; feeding rolled oats $85; reground oat feed $19; feeding oatmeal $69; pulverized $47; crimped $61.

Louisville: Demand fair; trend very firm to higher; supply good; reground $25.30; rolled oats $87.30; feeding oatmeal $79.80; pulverized $53.30; crimped $70.80.

OYSTER SHELL

San Francisco: Demand fair; supply ample; local $15; eastern $26.

Boston: Demand fair; supply steady; in paper $26.05.

New Orleans: Demand and supply good; trend steady; $24@25.50.

Portland: Demand good; supply ample; trend unchanged; western $34; eastern $39; granite grits $28; shell flour $24.

Los Angeles: Demand slow; trend unchanged; supply ample; $14.80.

Cincinnati: Demand fair; trend steady; supply adequate; $24.45.

Louisville: Demand good; trend steady; supply normal; in 80-lb. paper $23.45; in 50-lb. paper $23.70; in 25-lb. paper $25.95.

PEANUT OIL MEAL

Milwaukee: Demand good; supply fair; 26% $47.

Atlanta: Demand fair; trend steady; supply very limited; 45% $68, f.o.b. Georgia producing mills.

PEAT MOSS

Portland: Demand slow; supply ample; trend unchanged; $2.30 a bale.

Los Angeles: Demand fair; trend unchanged; supply adequate; Canadian 5.6 cu. ft. bales $3.65.

Boston: Demand and supply steady; $3.15 a bale.

Chicago: Demand fair; trend steady; supply ample; standard 7½ cu. ft. bales $3.80.

San Francisco: Demand and supply fair; $3.65 a bale.

Philadelphia: Demand slow; supply fair; $2.85 a bale, f.o.b. pier.

POTASSIUM IODIDE, U.S.P.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures: 250-lb. drums $1.35; 200 lb. in 100-lb. drums $1.35; 100-lb. drums $1.38; 25-lb. drums $1.41, f.o.b. Cincinnati.

POULTRY BY-PRODUCTS

Boston: Demand fair; supply improved; $81.

Ft. Worth: Demand excellent; supply limited; 55% protein $30@32.50, f.o.b. north Texas plants.

Los Angeles: Demand good; trend firmer; supply adequate; $1.45 a unit of protein.

Atlanta: Demand good; trend upward; supply ample; meal $72.50, bulk, f.o.b. Georgia and Alabama producing mills.

Salisbury, Md.: Demand good; supply limited; $83, bulk, f.o.b.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gm. in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in less than ton lots, in 3.36 to 16 gm./lb. mixtures, 3¢ in ton lots or more; freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand slow; offerings extremely light; carlots, rice bran $34@35, f.o.b. south Texas rice mills; hulls $3.50, f.o.b. mills.

San Francisco: Demand good; supply ample; bran $45; polished $49.

Los Angeles: Demand fair; trend unchanged; supply limited; California production, high fat content, bran $53.

Atlanta: Demand good; trend strong; supply very limited; bran $36, f.o.b. Louisiana producing mills.

SCREENINGS

Chicago: Demand fair; trend steady on domestic, easier on Canadian; supply ample; carlots, ground grain screenings $32, nominal; Canadian $26.90.

Ft. Worth: Demand good; supply limited; ground mixed grain $34.50@36.

Cincinnati: Demand fair; trend steady; supply adequate; oat screenings $19.

Minneapolis: Supply limited, but demand very slow; Canadian down from $24 to $23; lights $9@19, mediums $20@29, heavies $30@40, flax screenings, basis 15% $43.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand fair; supply sufficient; carlots, bulk, No. 2 yellow milo $1.93@1.95, delivered Texas common points.

Ogden: Supply average; $42@43.

Los Angeles: Demand steady; trend firmer; supply ample; milo $2.13¾ cwt., bulk.

SOYBEAN OIL MEAL

Cincinnati: Demand fair; trend lower; supply adequate; $58@58.50, bulk, Decatur.

Wichita: Demand good; supply ample; 44% $70, 50% $77, f.o.b. Wichita.

Milwaukee: Demand good; supply fair; $56.50, bulk, Decatur.

San Francisco: Demand good; supply ample; $79.40, bulk.

Boston: Demand fair; supply ample; 44% $55, 50% $60, both bulk, f.o.b. Decatur.

Portland: Demand good; trend higher; supply light; $53.50, f.o.b. Decatur.

Ft. Worth: Demand good; supply adequate; carlots: 44% $71@73 this week, $71.50@73.50 November-December; 50% protein $80.50@83.50 November-December, $81@84 January-March; trucks: 44% $72.50, 50% $79.

Omaha: Demand slow; trend easy; supply ample; 44% $61.60, bulk, delivered Omaha.

New Orleans: Demand slow; supply ample; trend steady; $68.50@69.

Memphis: Demand slow; trend steady; supply ample; prime 44% solvent $66, f.o.b. Memphis.

Chicago: Soybean oil meal followed the same general course as millfeeds during the week ending Nov. 18. Fewer reports were heard about heavy export business, and there was further comment about cancellation of some export bean meal contracts that were supposed to have been consummated several weeks earlier. Soybean oil meal futures showed signs of taming down. Most of the current demand for meal appeared to be for fairly nearby. Quotations, 44% protein, ton, carlots: Decatur basis, unrestricted billing $57.50@58 and eastern restricted $55.50; 50% protein, unrestricted billing $63@63.50 and eastern restricted $59.50.

Los Angeles: Demand slacker; trend weaker; supply ample; $79.40@79.90, bulk.

Ogden: Supply normal; $84@89.

Philadelphia: Demand and supply good; trend unsettled; 44% $56, bulk, Decatur.

Denver: Demand fair; trend steady; supply ample; $75.64, Denver.

Kansas City: Demand fairly active most of time; trend slightly easier; supply adequate, with some resale meal on market about $1 below producers' prices; for Kansas City shipment $56, bulk, Decatur, asked by producers.

St. Louis: Demand fair; trend steady; supply ample; 44% $65.

Louisville: Demand fair; trend easy; supply normal; $68.40.

Atlanta: Demand good; trend steady; supply ample; 44% $66.60, bulk, delivered.

Minneapolis: Prices weaker; supply ample; demand slow; 44% at $50.50, bulk, Decatur.

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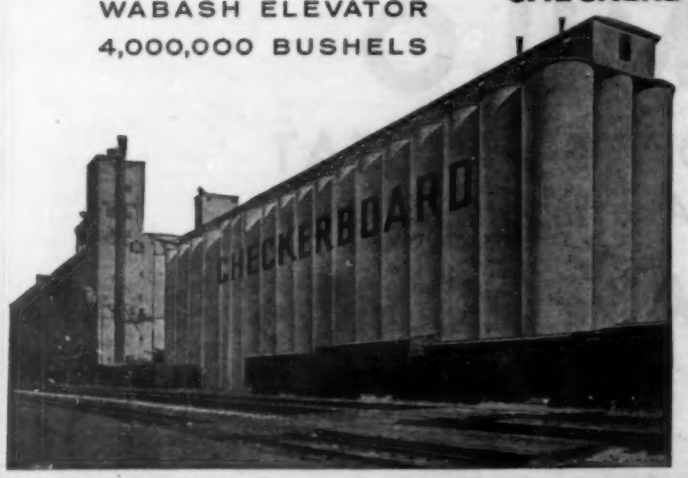

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CAPITAL COMMENT

(Continued from page 1)

mals. . . . Even though the earlier pesticide amendment, which is applicable to cranberries, does not contain any such provision, the same principle has been applied.

"The application of this principle is necessary in our opinion because while in theory there may be a minute quantity of a carcinogen which is safe in foods, in actuality our scientists do not know whether this is true or how to establish a safe tolerance.

"Therefore, we would oppose any attempt to take the cancer clause out of the food additives amendment and we will support the inclusion of such a clause in the color additive bill which is now before Congress."

From this comment plus previous information, it appears clear that the HEW will move into all gray areas of administrative action in regard to allegedly carcinogenic products.

Soybeans

The recent forecast by an official that soybean exports would attain a 150-million-bushel level this year was repudiated this week in a panel discussion of fats and oils at the USDA outlook conference.

USDA officials coyly forecast probable whole bean exports this crop year at about 127-plus million bushels. In other quarters, a prominent official told Feedstuffs that he saw an export level of 135 million—but, subsequently, he said that the buying pattern had not yet developed.

In short, USDA is working on a composite guess. This reporter gave currency to the 150-million-bushel export estimate on the basis of the standing and integrity of the official source. This estimate, however, has been brought under critical examination, as noted in Feedstuffs recently, when a competent trade source said there were several "ifs" in this estimate. Subsequently, this trade source commented that the 150-million-bushel export estimate was based on a broad examination of the availability of cottonseed this year and that the USDA official had assumed that the world reduction in cottonseed would be replaced entirely by soybeans from the US.

The overtones of the fats and oils session of the annual outlook conference led to the censensus among trade experts present that the soybean situation would rest on the price of soy oil later this crop year.

Soy Meal

At the present time, one trade source noted that the soy meal output was carrying the price load for the crushing industry but that if soy oil lost price ground, the crushers would, in many instances, be compelled to cut back operations.

Exports of soy meal were another highly controversial item. Estimates of soy meal exports run as high as 1 million tons for this year, while the lower level of the export range forecast is slightly higher than 550,000 tons.

Some trade sources left the USDA fats and oils session with the belief that by mid-winter the accumulation of soy oil will become burdensome and may force USDA into an oil-buying program later. But few can pinpoint any potential source for the removal of the oil surplus if soy meal exports attain anything like the top level of such exports as estimated above.

USDA might, of course, entertain an oil buying program, but it is reasonably asked, how can USDA go into any new program for bean products when the crop is selling well above the loan level?

The soybean problem must be seen as now in the hands of the bean producers who, through farm holding or use of the loan program, can name the selling price for beans. Significantly, CCC stocks of beans are in many instances the most attractive supply in the market even though CCC has departed from its original formula sales price and has been boosting its pricing to follow the market up. It also is notable that, as the Chicago November bean futures contract closed this week, a big midwest crusher and feed manufacturer stopped tenders of beans on that contract.

SWINE

(Continued from page 1)

"If you wish to produce lean hogs, you must restrict feeding until a breed is developed which can be fed free choice without getting fat," he commented.

Higher Costs Noted

Prof. Claussen pointed out that it costs more to produce lean hogs than fat ones. Meat-type production requires the feeding of more protein. It also requires more manpower, in that limited feeding is necessary, he said in explaining what has been learned in Denmark. He said an automatic feeder is needed that will weigh and dispense the desired amount of the right feed at the right time. "Producers can't produce meaty hogs if they are not paid according to carcass quality," he said. "Farmers producing good pigs are paying for losses in fat pigs."

It has been found in ad lib. studies in Denmark that the what and how of feeding lactating sows have an influence on the meatiness of farrowed pigs—but, he said, the reasons for this are not known. Prof. Claussen explained that it has been demonstrated that if the lactating sow gets too little protein, her progeny will have a tendency to be fat. This influence has not been found in restricted feeding studies, he said.

It's important how protein is fed, he said, because different methods of feeding influence results of identical protein supplementation.

"We've got to find out more about amino acids and their place in growing swine," he said. "We have found amino acid requirements for daily gain and feed conversion, but, as far as I am able to determine, nothing has been found to determine the amino acid requirements for meat production."

Several speakers commented that the public's image of pork as the "poor man's meat" has hurt consumption, and removing this image from the public's eye is a job cut out for the swine industry.

Complete Confinement

Dr. O. B. Ross, University of Illinois, told the gathering of swine industry representatives from 39 states that complete confinement is possible and practical today. "While many feel that some pasture is necessary for the brood sow, I am sure that it is only a matter of time until sows will likewise be maintained under complete confinement," he said. "Several experiment stations already have reported trials where hogs have been completely confined for several generations with satisfactoroy performance."

And, he added that nutrition research involving the growing-finishing pig has progressed at a faster rate than have studies of the nutritional requirements of the breeding herd. "I believe we can look forward to the day when we will be producing a pound of pork for 2.5 lb. of feed or less, marketing two or more additional pigs from each sow, marketing 200 lb. pigs at four months of age (this is being done) and producing the kind of product which again will be preferred over any other meat at the meat counter."

He said farms producing 1,000 litters twice a year appear to be just around the corner, but factors which may slow up this development are the "disease problems," which Dr. Ross called the No. 1 problem in swine industry; the labor situation, and the availability of money to finance such an operation.

Marvin McLain, assistant secretary of agriculture, said hog prices are expected to run a little lower during the early months of 1960 than during the same period of 1959. But he said it seems probable that hog prices for the last half of 1960 may be close to or a little higher than last year.

Other speakers were Dr. Floyd Andre, dean, College of Agriculture, and director, Agricultural Experiment Station, Iowa State University; Dr. Elmer Kiehl, University of Missouri; Homer Davison, president, American Meat Institute, and Howard Hill, president, Iowa Farm Bureau Federation.

The nutrition and feeding session, one of eight workshop groups assembled for discussing during the afternoon, Nov. 19, had as its chairman, Dr. Damon Catron, the Iowa State University swine specialist, who introduced Prof. Claussen as the world's foremost swine production expert. Roy Godsey, Virginia Polytechnic Institute, served as secretary for the panel which included Dr. R. J. Meade, University of Minnesota, who discussed latest research results in swine feeding; Dr. Robert Grummer, University of Wisconsin, whose topic was "Are We Feeding Our Hogs as Well as We Know How?," and Stanley Hurst, Manilla, Ind., hog producer.

Other workshop sessions had to do with breeding and reproduction, housing and equipment, management systems, disease control in swine, marketing live hogs, pork processing and merchandising and quality goals in pork.

Summaries of some of these and other discussions follow:

SWINE INDUSTRY OUTLOOK—Indications are that hog production will level off or turn down in 1960, checking the current buildup, according to Marvin L. McLain, assistant secretary of agriculture.

Mr. McLain noted that hog production has been increasing for two years, but that signs now indicate a leveling off.

"In September, intentions reported from 10 Corn Belt states, where the majority of all hogs are produced, were for a reduction of 4% in the number of pigs farrowed in the first half of the spring season (December-February). Recently, about 40% of all spring farrowing has been in this December through February period," he said.

Farmers themselves apparently are starting to make needed adjustments on hog production, Mr. McLain said.

"We will not get estimates on total spring farrowing until December, and various factors can change the figures, but as of now the build-up seems to have been checked," he stated.

The assistant secretary expects hog prices to run a little lower the early months of next year than for the same period of 1959. This, he said, will reflect this year's big production, but the impact will be lessened considerably by the fact that farrowing this fall apparently will be less than indicated by last summer's estimates. Producers also have been smoothing out their farrowing patterns, he noted.

Mr. McLain foresees the possibility of hog prices for the last half of 1960 being close to or a little higher than this year, "if the spring pig crop is down somewhat, as now seems probable on the basis of the early 10-state intentions report." Mr. McLain added that it's a little early to be sure, but there are "encouraging indications."

In summing up Mr. McLain noted, "The whole situation is much better than some pessimists were expecting a little while ago. Their predictions have not been borne out, but it is obvious that we still need further adjustments to come fully into the clear."

Mr. McLain urged producers to "produce hogs of better quality in terms of market demand—the meat-type hogs which consumers want."

"We have made progress in quality during the last decade. I understand that around 20% of the pig crop now will qualify as strictly meat-type, as compared with almost none 10 years ago. But there still is a long way to go in replacing the old-fashioned lard-type hog," he declared.

Mr. McLain noted the trend toward farm industry integration, urging the producers to "be in a position to benefit from the good in any such developments, at the same time guarding against their dangers."

"We all know the changes it has brought about in the poultry industry," he said. "The farm flock for eggs and poultry meat is fast declining as a 'home' industry in many areas. I do not know what the effects would be if the swine industry became extensively integrated, but I am sure that this involves potential problems which producers and others should study with great care."

PRODUCTION PROBLEMS—Disease prevention and control is the number one problem facing swine producers, Dr. O. Burr Ross, head of the University of Illinois animal science department, believes.

He pointed out that if all hogs were healthy, producers could drastically slash production costs. Feed needed to produce a pound of gain would decrease. And producers could market more pigs from each sow.

Much progress already has been made in this area. Dr. Ross feels, however, that producers need additional research studies to help them produce even healthier hogs. On the other hand, he criticized producers for not following disease prevention methods already proven successful.

For example, vaccines will now control cholera, once the most feared disease in the swine industry. But Dr. Ross estimates that more than 60% of Illinois' hogs were not vaccinated against this deadly disease in 1959. Consequently, several serious cholera outbreaks have occurred.

"Management ranks as the second most important problem facing swine producers," Dr. Ross stated. "In fact, swine management is the most neglected research area today."

"Researchers need to evaluate the various systems of swine production," he said. "They need to determine which kinds of buildings are best for hogs, including what types of heating, ventilation and air conditioning are most effective."

Dr. Ross was highly optimistic regarding the swine industry's potential. Production will undoubtedly increase and costs will probably decrease, he said.

"Research developments will someday help swine growers produce a pound of pork for 2½ lb. of feed, or less," he predicted. "Growers will market at least two more pigs from each sow and they'll sell 200-lb. pigs at four months of age. And perhaps, most important, they'll produce a product that will again be the homemaker's favorite at the meat counter."

HOG MARKETING—A University of Illinois agricultural economist looked at the hog marketing picture with mixed emotions.

On the favorable side, Dr. M. B. Kirtley listed current increases in better quality hogs as a sign of progress in hog marketing. "Better quality hogs coming to market give more incentive for market firms to differentiate prices for quality," Dr. Kirtley explained. He estimated that about one fourth of the hogs now marketed would grade U.S. No. 1.

The economist noted a more even

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
September 12	838	332	724	633	111	627	1,419	1,718
September 19	407	402	667	622	106	557	1,179	1,871
September 26	817	346	590	571	121	598	1,125	1,827
October 3	898	372	658	494	81	506	1,097	1,797
October 10	831	514	597	566	114	564	1,022	1,880
October 17	724	445	483	524	106	574	1,189	1,833
October 24	949	493	440	633	95	511	1,428	1,765
October 31	931	452	623	579	68	539	1,563	1,869
November 7	960	309	710	617	51	500	1,484	2,069
November 14	975	435	702	628	99	557	1,506	2,092

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
September 12	896	386	2,355	257	4,668	234	2,568	1,618
September 19	688	374	2,089	267	4,537	168	2,596	1,689
September 26	739	296	2,186	272	4,452	179	2,405	1,675
October 3	832	391	2,232	270	4,383	145	2,284	1,656
October 10	831	381	2,202	283	4,510	167	2,427	1,554
October 17	658	344	1,841	295	4,500	155	2,306	1,614
October 24	443	235	2,045	293	4,802	148	2,200	1,771
October 31	641	405	2,106	302	5,080	151	2,667	1,801
November 7	860	467	2,103	300	5,051	151	2,588	1,706
November 14	840	489	2,190	344	5,054	150	2,591	1,793

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1959	Total 22 areas 1958
September 12	2,657	318	1,895	282	177	852	25,585	27,265
September 19	2,648	308	1,711	244	107	726	23,963	25,781
September 26	2,554	327	1,689	194	160	916	24,039	25,502
October 3	2,620	331	1,596	211	172	962	23,990	27,134
October 10	2,483	392	1,512	260	185	951	24,226	27,277
October 17	2,656	432	1,560	205	172	859	23,475	26,158
October 24	2,451	325	1,542	252	91	831	23,743	26,076
October 31	2,723	323	1,336	210	134	991	25,494	27,170
November 7	2,690	279	1,490	290	170	1,131	25,976	27,429
November 14	2,815	279	1,508	282	157	1,172	26,658	27,651

flow of hogs to market over the past few years, thanks to multiple farrowing and improved production systems.

"This should eliminate periods where everyone struggles for hogs to keep up a kill regardless of quality, as well as periods when market gluts force prices so low that all grades of hogs give the processor a favorable return," he said.

Going to the not-so-bright side of hog marketing, Dr. Kirtley singled out the pricing system as "one of our greatest impediments in hog marketing." He called for one unified system of grading.

"Currently there are U.S. grade standards, plant grade standards and buyer grades that are some modification of U.S. standards. The interest in developing effective systems for measuring quality is healthy but frequently most confusing."

Dr. Kirtley listed selection of pork cuts on basis of quality as an important future goal in hog marketing. "Most of our progress to date has been a matter of quantity, not quality," he said. "We expect to receive more for certain lots of hogs because they will provide more pounds of the more preferred lean cuts."

He thought carcass or live grades aren't refined enough for selection on quality, but they could well serve as a basis for starting the selection.

NUTRITION WORKSHOP — New swine programs, such as certification, confinement rearing, multiple farrowing and early weaning, are altering nutritional requirements of hogs, Dr. Robert H. Grummer, University of Wisconsin swine specialist, declared.

A major need of the swine industry is simple methods to detect nutritional deficiencies and to avoid the prescription of mass fortification of rations, which Dr. Grummer labeled as costly. First symptoms of slow growth, poor skin and hair coat also accompany certain chronic infectious diseases.

Dr. Grummer suggested that infectious disease may cause unusual demands and that "nutritional therapy might greatly aid recovery." He called for more research on the effect of feeding on carcass quality, on improving fat-to-lean ratio and the effect of feeding on the reproductive behavior of sows and boars.

His suggestion on multiple farrowing program with several lots: Make individual feeding comparisons; the most profitable program for one may not be the best for another producer. "We have yet to learn how to feed most economically," he declared.

Current research, based on some work started more than half a century ago, is seeking information on the requirements of the young pig for essential amino acids and their relationship to protein levels, Dr. R. J. Meade, University of Minnesota, reported.

Present problem is that all amino acids the pig can use may be present in basic feedstuffs, but aren't easily available to the pig. Relationships of protein and amino acid levels to caloric content of rations also are being studied in an effort to avoid making the hog overfat.

Dr. Meade said the area of brood sow nutrition has not been neglected, but research in this area has been less fruitful than other work. Findings in trace elements, advances in the administration of iron, better understanding of the role of calcium and zinc and the proper levels of vitamins and minerals begin to reduce the significance of pasture in the nutrition of swine, he declared.

Stanley Hurst, Manilla, Ind., producer who raises 800 head of hogs or more a year, believes two periods in the pig's life—the embryo stage and 2-5 weeks of age—need much more attention in the field of nutritional research. He called on colleges and feed companies to do more testing on new nutritive finds more quickly to save the hog producer "from being a guinea pig."

MANAGEMENT SYSTEM — The good hog farmer, with smaller production, will be able to compete as large-scale, specialized hog production operations expand in the future, three workshop speakers agreed.

Smaller hog farmers in the south will continue to use pasture, G. B. Phillips, extension swine specialist, Alabama Polytechnic Institute, said. However, he conceded any large expansion will be achieved by specialized confinement feeding programs.

Edgar Urevig, Lewisville, Minn., general manager of the 9,000-acre Tilney farms, foresaw an increase in the large specialized operations but said they won't put the good hog producer, who is in the top third of present producers, out of business.

Bernard Collins, Clarion, Iowa, swine producer, said the grain producing farmer is in a stronger economic position than his competition to raise hogs in the future. He sees a place for pasture hog production.

The midwest farmer has advantages in three major cost items—feed, labor and equipment—Mr. Collins said, pointing out that every time feed is moved, costs go up. This gives a farmer a 9-10¢ bu. advantage over the feed purchaser.

The labor cost advantage, Mr. Collins cited, was based on an estimate that the average Iowa farmer is 30% unemployed.

Mr. Urevig compared results from the central system at Tilney Farms, producing 4-5,000 hogs a year since 1956, with data from farms operated by his organization and leased to operators which together produced about 4,000 hogs a year.

He said the farm system cost for producing hogs per hundredweight is $12.53 for feed, $1.70 for other costs such as buildings, equipment and veterinary supplies, and $1.50 for labor (at 75¢ hour for 2 hours per cwt.), for a total of $15.73 cwt.

Tilney figures show little difference between the central and the farm systems, in costs other than feed. The feed advantage for the central system is offset somewhat by problems intensified by volume—disease and sanitation, keeping buildings filled and determining how far the producer can go on labor-saving equipment. Despite labor-saving devices in the central system, the labor input is about the same per pound of pork produced as under the farm system, Mr. Urevig said.

Claiming a feed wastage of $2 per finished hog, he suggested manufacturers study the pig's eating habits, and predicted that conventional feeders will become obsolete.

The Tilney manager agreed with Mr. Collins on limitations of managerial ability by citing income per acre on corn fed to livestock—$124.30 per acre for top operators and $35.57 for low operators over a 4-year period in the Tilney farm system. This is a return of $1.57 bu. of corn fed for the best operators and 52¢ bu. for the low farms. Facilities were quite similar, Mr. Urevig said, demonstrating the effect of management resources skill in directing the hog operation.

The Alabama hog specialist credited the south's pasture program with the ability to grow forage practically the entire year. He cited one operation in which pigs are put on crimson clover at 60 lb. and taken off at 160 lb. They gained 100 lb. on only 205 lb. of feed at a cost of 7¢ lb. A profitable seed crop, followed by grain sorghum, averaging 40-50 bu. per acre, the same crop year more than pays the pasture costs, he said.

Mr. Collins made a similar case for pasture. If the return per acre as hog pasture is only $20 and the average return per acre on corn land is $40, it appears that there is an advantage of $800 on 40 acres for continuous corn and confinement hog raising.

But, he said, facilities for growing and finishing as many hogs in confinement as can be handled on 40 acres of pasture would cost at least $10,000. That amount, at 4½% interest, and depreciated over 25 years, gives a cost of $850. Labor requirements are less on pasture, Mr. Collins said, while gaining the manure spread by the pigs on the pasture. "I find I can raise as many bushels of corn per acre after hog pasture as I do on second year on continuous corn with $15 per acre of plow-down fertilizer."

HOUSING AND EQUIPMENT — "The time is ripe for some supersonic thinking" in the field of swine housing and equipment, according to J. E. Burnside, animal industries department, Southern Illinois University, Carbondale, Ill.

He called for research into feeder space requirements, floor space needs, design of waterers and feeders and low cost housing. Current feeder space recommendations, which he said appear to be a carry-over from free-choice feeding and hand feeding from troughs, may be too low.

Additional work should be done on automatic feeders, as pigs make the most efficient use of their feed when it is restricted slightly and since frequency of feeding as well as amount can be regulated in the automatic models. Reduction in floor space and increasing the number of pigs per feeder hole may lead to the auger-type feeders "somewhat similar to an over-under shotgun," he said. The top feeder would be supported on a small incline or porch by a series of arches, allowing pigs from the same pen to eat at two or more levels.

Criticizing "this reservoir of liquid filth that too often is referred to as a hog waterer," Mr. Burnside called for a drinking fountain that will work when actuated by the pig and drain clean when not in use. He suggested that with the use of perforated or slatted floors and automatic removal of waste material, a decked, multi-level system of housing would be feasible and practical.

Dr. Thamon Hazen, engineer, Iowa State University, said the amount that can be saved in cost of production per animal and the number of animals that can be handled in a given time determine the value of new swine housing and equipment.

He pointed out that in a business operation the objective of any investment is to recover the value of the investment plus an interest return equal to the risk involved. The largest difficulty is probably evaluating this risk.

The growing-finishing period offers the most attractive "challenge" because it offers the biggest opportunity for feed saving through improved environment, he said. There are experiments in which 150 lb. of gain have been put on hogs with 400 lb. of feed—not with exceptionally good feeds or pigs, but with better environment. Hogs produced with ordinary Iowa housing and equipment are probably requiring 550 lb. for 150 lb. of pork. This means the feed saving from better housing could be 14% of the total cost of production.

The building for such an environment costs about 50% more than the present ordinary swine production set-up. But buildings are only 10% of the cost of swine production. So the improvement in housing represents 5% of the total cost of producing pork. This leaves a net saving of 9% in production cost or nearly a 200% return on investment.

For the farrowing and growing period, however, the building investment must be figured differently, he said. Feed savings aren't likely to be big, but mortality savings may be. The farrowing building must pay for itself in pigs saved. Assume that better housing will save the lives of three pigs out of eight—that's 37½%. In this case a producer can't afford to spend more than 37½% minus interest, of the net return from pigs marketed. If a net profit of $3 a pig is expected, $1 per pig could be invested for this better housing.

With a 20-stall farrowing unit farrowing four times a year at the rate of eight pigs per litter, the producer could then afford to invest $6,400, amortizing it over 10 years. Dr. Hazen said that, on the $1 per pig basis, a producer could probably pay for the building, plus interest, in 10 years by farrowing six times a year.

When it comes to sow housing, he said, a producer has to think of it primarily as protection for the sow's health. (Most of her feed is for body maintenance, so a big feed savings can't be figured here.) Investment in better housing can be thought of as an alternative to buying insurance on the sow's health. Dr. Hazen estimated the premium for health insurance on a sow might be ½-1¢ per dollar of "face value" of the sow.

DISEASE — The swine industry can catch up with other segments of the livestock field in disease control if it wants to get organized and do something—or "continue to meet annually and bemoan the lack of progress."

With that challenge, Dr. F. J. Mulhern, assistant director, animal disease eradication division, U.S. Department of Agriculture, proposed that the conference recommend establishment of a 12-man committee made up of authorities on swine disease research, representatives of producers and marketing interests, of state departments of agriculture and Dr. Mulhern's USDA division.

He suggested that this committee would gather information on the problems, keep abreast of facilities and funds available for research, establish priorities for research and work with state and federal governments in instituting control or eradication programs.

MARKETS

(Continued from page 2)

Citrus processing is getting off to a very slow start, causing some tightness in supplies, with prices remaining unchanged at $32.50 f.o.b. producing plants. There has been some inquiry from the exporters for citrus pulp, but as yet no sales have been reported. Harvesting of southeastern corn is rapidly coming to a close, with prices advancing as much as 5¢ bu.

Central States

Formula feed trade in this region during the past week failed to differ materially from that of the one just preceding. The almost totally unexpected switch to mid-winter temperatures over all of this territory is naturally expected to have some ultimate effect on the demand, but as of this writing, the impact is not as yet evident. Mixing plants are generally operating on a full five day week. So far there are no signs of overtime operations.

Sales tonnage continues to lag compared with a year ago, but the difference could be overcome with more cold weather.

While there has been some pickup in cattle feed sales, they still are not up to the usual seasonal level. In hog feeds, the corn-hog ratio slipped a couple more pegs—down to 11.6 versus 11.9 the preceding week, widening the gap still further between now and a year ago when it was 16.9. This 5.3 discrepancy currently cannot help but have an adverse impact on hog feed sales.

South Central

Colder weather moving into the area has bolstered feed demand, but not enough to cause any appreciable difference in mill running time. With few exceptions, mills operated five days, single shifts, this week—about in line with past experience considering that last week contained a holiday and most plants operated only four days.

Mill representatives say that there is no mystery as to why formula feeds are not moving as well as the large animal population would indicate. According to them, it all boils down to a matter of dissatisfaction over returns from feeding operations coupled with the availability of a tremendous supply of comparatively cheap feed grains.

In addition, representatives say they can't see anything in the near future that will cause any great change in formula feed demand. They think business will go along on about this same level for some time.

During this week there has been some further expansion in cattle feed demand and a generally steady movement of hog feeds. Both dairy and poultry feeds are on the slow side.

Ohio Valley

Formula feed manufacturers in the Ohio Valley reported a slight but definite increase in business this week, and the feeling of optimism noted last week was more apparent —induced mostly by the drop in temperature to near zero. This, of course, has made indoor feeding necessary, with a consequent increase in animal consumption of mixed feeds.

Furthermore, area manufacturers said this week that they are confidently expecting a "quite substantial" increase in demands for all types of feeds shortly after the beginning of the new year, particularly in poultry feeds.

It is expected that by this year-end much of the excess supplies of farm feeds, harvested last fall, will have been consumed, and also that by year-end, the months-long, overproduction of eggs and friers will have run its course.

Meanwhile, in this pre-holiday week, demands for eggs and poultry continued at the quiet level noted during recent weeks, with both chain and independent retailers reporting an excellent volume of orders for poultry and other meats for Thanksgiving consumption.

Pacific Northwest

Cold, wet weather during most of the week stimulated demands for formula feeds and alfalfa hay in Oregon and Washington.

Feed ingredient listings followed a mixed trend similar to that of other recent weeks, reflecting varying supply and demand conditions.

Formula feed sales were of good volume, with dairy and beef cattle feed movement improved. The demand for turkey mashes is nearing the seasonal low. Portland poultry processors reported close to 75% of Oregon's turkey crop has been slaughtered.

Pacific Northwest alfalfa hay prices held firm following last week's $1-2 a ton advance, and are now at levels that are around $7 a ton higher than one year ago, and highest since the spring of 1956.

Higher hay prices triggered values for sun-cured alfalfa meal to the extent that this ingredient gained $5 a ton. Weakness in soybean meal more than offset gains made by cottonseed meal, while corn and milo prices eased off 25-50¢ a ton. Oats gained as much as $1 a ton, and barley was firm to slightly higher. Oregon grown yellow corn sold $1 a ton less in front of larger offerings at Portland and major country shipping points.

Mountain States

The past week's sales volume in formula feeds has been about the same as the previous week. It is holding its own with this time a year ago.

Range feeds and drylot cattle feeds are still in very heavy demand and constitute the largest formula feed sales at the present time. Feed manufacturers are running at capacity to keep up with demand for these feeds.

Rath Addition

WATERLOO, IOWA — Scheduled completion in January of the Rath Packing Co.'s $650,000 addition to its mixed feed and fertilizer plant was noted in the annual report of the company. The new plant will provide for expansion of its line of poultry and animal feeds, the report said.

ELEVATOR FIRE

ROGGEN, COLO.—Fire gutted the grain elevator of Roggen Farmers Elevator Assn. recently, causing an estimated $200,000 in damages to elevator building, offices and an adjoining warehouse. Fred W. Seelhoff, manager, said 30,000 tons of barley, oats and corn and 75 tons of sacked feed were lost.

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